

How Governments Can Create and Protect Value by Better Managing Their Total Balance Sheet

Preliminary Working Draft Materials by:

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CEPS Working Agenda

1. Why a total government balance sheet?
2. Why international accounting standards?
3. What is and is not a balance sheet?
4. How is a balance sheet a value creation tool?
5. Examples of mis-measurement.
6. Examples of mis-management.
7. Wrap-up and reference appendices.

1. Why a total government balance sheet?

Government Financial Transparency is a Cornerstone of Western Democracy

- Western democracy depends on the trust and the confidence of the voters that the government is being honest with its finances.
- Governments have become over half of the national GDP in many countries.
- Government organizational complexity is mind boggling.
- Large scale vote buying funded with ever larger non-transparent schemes is undeniable.

Overview: Why a Total Government Balance Sheet?

- Understand the massive magnitude of the total balance sheet.
- Focus on the balance sheet relationship to GDP value creation.
- Assess the potential to create and protect value with better measurement and management of each balance sheet line item.
- Government financial transparency is a cornerstone of Western democracy.

Net Worth Per Citizen

SN	Country	Latest Net Worth per Citizen (LC)	Latest Net Worth per Citizen (EUR)	5-Year Change Per Citizen (LC)	5-Year Change per Citizen (EUR)
1.	Australia, Commonwealth of	-\$13,093	-€ 8,787	-\$10,805	-€ 7,252
2.	Canada, Government of	-\$17,239	-€ 11,493	-\$2,620	-€ 1,746
3.	France, Republic of (<i>Central Government</i>)	-€ 43,349	-€ 43,349	-€ 14,585	-€ 14,585
4.	Israel, Government of the State of	-210,610₪	-€ 49,815	-69,268₪	-€ 16,384
5.	New Zealand, Government of	\$20,000	€ 12,579	-\$652	-€ 410
6.	Swiss Confederation	-CHF 4,321	-€ 3,971	CHF 617	€ 567
7.	United Kingdom	-£25,116	-€ 33,907	-£16,104	-€ 21,740
8.	United States Government (<i>Central Government</i>)	-\$57,104	-€ 52,536	-\$14,882	-€ 13,692

Notes: Net Worth data from respective government financial statements. Based on 2014 population data from IMF accessed 19 April 2016. Exchange rate data from Bloomberg as of 31 Dec 2015 19 April 2016.

Total Assets and Total Liabilities as a Percentage of GDP

SN	Benchmark	Total Assets and Total Liabilities % of GDP	Total Assets % of GDP	Total Liabilities % of GDP	Latest Fiscal Year End
1	Australia, Commonwealth of	84%	33%	51%	30 Jun 2015
2	Canada, Government of	73%	21%	52%	31 Mar 2015
3	France, Republic of (<i>Central Government; FN Pensions</i>)	223%	46%	176%	31 Dec 2014
4	Israel, Government of the State of	250%	46%	204%	31 Dec 2014
5	New Zealand, Government of	191%	114%	77%	30 Jun 2015
6	Swiss Confederation (<i>FN Pensions</i>)	38%	16%	22%	31 Dec 2014
7	United Kingdom (<i>w/ note 13.1</i>)	274%	90%	184%	31 Mar 2014
8	United States Government (<i>Central Government</i>)	137%	18%	119%	30 Sep 2015

Notes: Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Asset and liability data from respective government financial statements. France and Swiss liabilities adjusted for pension commitments. UK assets adjusted for undervaluation of infrastructure assets. Canada and United Kingdom as a percentage of prior year GDP due to 31 March fiscal year end.

Value Creations Ratios: Net Worth and Total Liabilities

Net Worth Value Creation Ratio: Change in GDP as % of Change in Net Worth

Total Liabilities Value Creation Ratio: Change in GDP as % of Change in Total Liabilities

Return on Assets: Historical Average of Annual Change in Net Worth as % of YE Total Assets

SN	Benchmark	Net Worth VCR	Total Liabilities VCR	Return on Assets	Start Year
1	Australia, Commonwealth of	333%	150%	-4%	2001
2	Canada, Government of	1008%	224%	-1%	2001
3	France, Republic of <i>(Central Government; FN Pensions)</i>	23%	16%	-18%	2006
4	Israel, Government of the State of	64%	38%	-20%	2006
5	New Zealand, Government of	NWI 69% of GDP	96%	4%	2001
6	Swiss Confederation <i>(FN Pensions)</i>	NWI 9% of GDP	997%	1%	2009
7	United Kingdom <i>(w/ note 13.1)</i>	41%	35%	-12%	2010
8	United States Government <i>(Central Government)</i>	62%	52%	-38%	2001

Notes: Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Asset and liability data from respective government financial statements. France and Swiss liabilities adjusted for pension commitments. UK assets adjusted for undervaluation of infrastructure assets. Canada and United Kingdom as a percentage of prior year GDP due to 31 March fiscal year end.

2. Why international accounting standards?

International Accounting Standards: Highlights

- Two harmonized IAS: IPSAS (public sector) and IFRS (private and public sector)
- Developed in a transparent professional process with world-class governance over decades
- Dedicated standards to measure even the most detailed transaction
- Provides integration of all three financial statements
- Auditability to detect accounting device and illusion
- Increasing pervasive use throughout the public sector

GFSM (IMF) Box A6.1.

Summary Comparison of GFS and IPSAS - Objectives

IPSAS:

Evaluate financial performance and position: General purpose financial statements are used to evaluate financial performance and financial position, hold management accountable, and inform decision making by users of the general purpose financial statements.

Government Finance Statistics:

Evaluate economic impact: Government finance statistics are used to (i) analyze and evaluate the outcomes of fiscal policy decisions, (ii) determine the impact on the economy, and (iii) compare national and international outcomes. The GFS reporting framework was developed specifically for public sector input to other macroeconomic datasets.

International Public Sector Accounting Standards

(1 of 2)

- IPSAS 1 Presentation of Financial Statements
- IPSAS 2 Cash Flow Statements
- IPSAS 3 Accounting Policies, Changes in Accounting Estimates and Errors
- IPSAS 4 The Effects of Changes in Foreign Exchange Rates
- IPSAS 5 Borrowing Costs
- IPSAS 6 Consolidated and Separate Financial Statements
- IPSAS 7 Investments in Associates
- IPSAS 8 Interests in Joint Ventures
- IPSAS 9 Revenue from Exchange Transactions
- IPSAS 10 Financial Reporting in Hyperinflationary Economies
- IPSAS 11 Construction Contracts
- IPSAS 12 Inventories
- IPSAS 13 Leases
- IPSAS 14 Events after the Reporting Date
- IPSAS 16 Investment Property

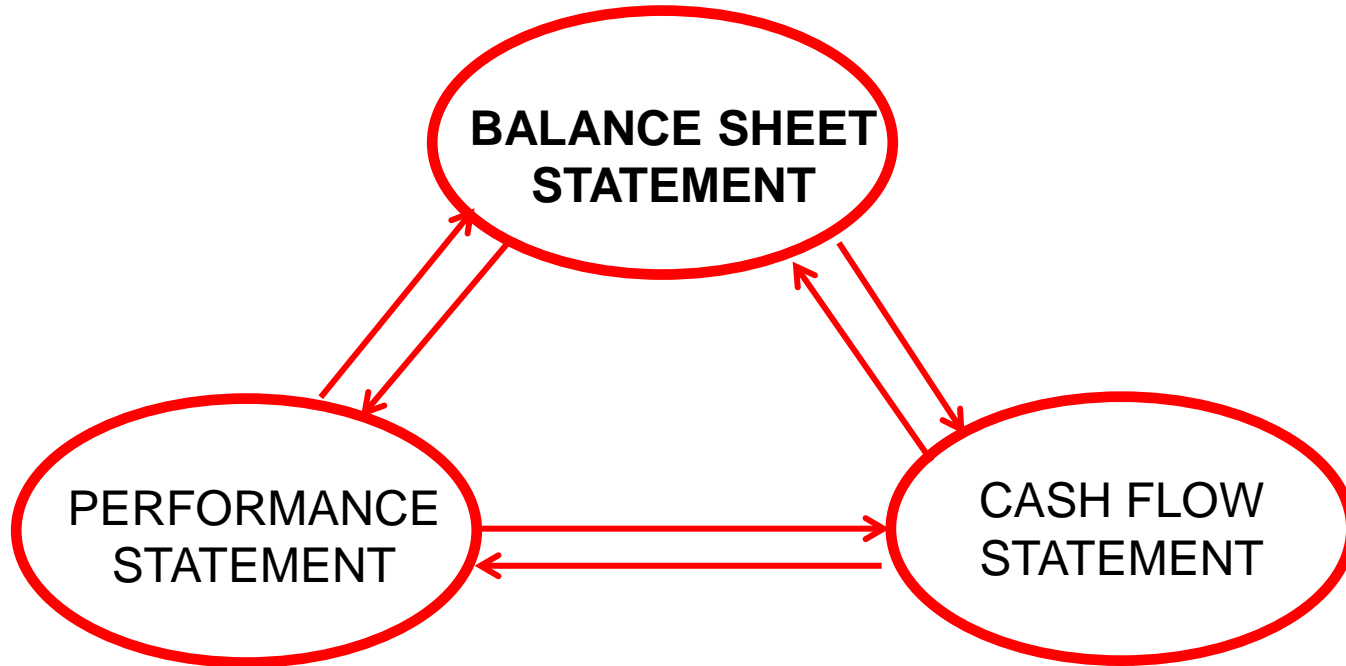
International Public Sector Accounting Standards

(2 of 2)

- IPSAS 17 Property, Plant, and Equipment
- IPSAS 18 Segment Reporting
- IPSAS 19 Provisions, Contingent Liabilities and Contingent Assets
- IPSAS 20 Related Party Disclosures
- IPSAS 21 Impairment of Non-Cash-Generating Assets
- IPSAS 22 Disclosure of Financial Information about the General Government Sector
- IPSAS 23 Revenue from Non-Exchange Transactions (Taxes and Transfers)
- IPSAS 24 Presentation of Budget Information in Financial Statements
- IPSAS 25 Employee Benefits
- IPSAS 26 Impairment of Cash-Generating Assets
- IPSAS 27 Agriculture
- IPSAS 28 Financial Instruments: Presentation
- IPSAS 29 Financial Instruments: Recognition and Measurement
- IPSAS 30 Financial Instruments: Disclosures
- IPSAS 31 Intangible Assets
- IPSAS 32 Service Concession Arrangements: Grantor

ASSESSING SOVEREIGN DEBT WITH FINANCIAL STATEMENTS

--- Changes over time and relationships among the three statements---



DISCUSSION & ANALYSIS

FINANCIAL FOOTNOTES

INDEPENDENT AUDIT OPINION

Basic Balance Sheet Terminology

- **Balance sheet debt:** Debt at amortized cost, which is debt at initial recognition value plus or minus annual accretion / amortization.
- **Balance sheet net debt:** Balance sheet debt less financial assets.
- **Double-entry accrual** accounting contrasts with Greece's single entry, modified cash reporting.
- **Financial assets** are those assets related to financial instruments, which include equities.
- **General Government:** consolidated financials with proper eliminations include when eligible the following entities: central government, local government, SOEs, government pension funds, and public private partnerships.
- **Net worth:** assets less liabilities, which can be calculated for a government.
- **Present value of net debt:** Informal term used to communicate debt at amortized cost. NPV of debt (a misused term) would be an asset or zero.
- **T-Account:** Visual aid for seeing the effect of a debit and credit on the two (or more) accounts.

International Accounting Rules Are Used Throughout the Public and Private Sectors

The International Accrual Accounting Rules (consistent with IPSAS/IFRS): used by 92% of the OECD non-Asia governments and public companies (by expenditures).

- **Government Entities:**
 - **Benchmark Examples:** Australia, Austria, Canada, France, Hamburg, Hesse, Israel, New Zealand, North Rhine-Westphalia, South Africa, Sweden, Switzerland, United Kingdom, and the United States.
 - **In Process Examples:** Brasil, Chile, China, Estonia, Portugal, Russia, Spain, United Arab Emirates, and the Vatican.
- **Public Sector Organizations Examples:** European Union, IMF, OECD, United Nations, and the World Bank.
- **Global Publicly Traded Companies:** All.

OECD (Non-Asian) Country Pervasive Use of Government and Private Sector Accrual Financial Statements

(US\$, billions)

		Government Accrual Financial Statements	General Government Expenditure ^a	Public Company Expenditure ^b	"Yes" Gen. Govt. Expenditure plus Public Co. Expenditure ^b	GDP ^a
1	Subtotal OECD (Non-Asian) Countries with Financial Statements	17	\$14,197	\$26,001	\$40,198	\$34,733
2	Total OECD (Non-Asian) Countries	32	\$17,753	\$26,001	\$43,754	\$42,798
3	Percent with Financial Statements	53%	80%	100%	92%	81%

Notes: (a) IMF World Economic Outlook, Apr 2015 database (Accessed on 13 Jul 2015), 2014 data. GDP in current prices (USD) and General Government Expenditure based on % of GDP. Use of full asset depreciation and government pension expense varies. (b) Bloomberg data, 2014 (accessed on 6 Aug 2015). Includes cost of revenue/goods sold and operating expenses. (c) Germany: Progressive but paced implementation. (d) Ireland: The Coalition Government's Five-year Program for Government commits all public sector bodies to publish balance sheets and move from cash to accrual accounting (IMF FTA Jul 2013, p. 9). (e) Portugal: Published new accounting framework (Decree-Law No. 192/2015) based on IPSAS on 11 Sep 2015.

Audit Letters in the Public Sector: Examples

SOVEREIGNS:

- Australia
- Canada
- France
- Israel
- New Zealand
- Switzerland
- United Kingdom
- United States of America

PUBLIC SECTOR ORGANIZATIONS:

- European Commission
- IMF
- NATO
- OECD
- UNDP
- UNICEF
- World Bank – IBRD
- World Bank – IDA

Technical Definitions of Accounting Device and Fiscal Illusion (aka “Accounting Fraud”)

- Window dressing and creative accounting that has little overall effect on fiscal policy and could **actually hide a worsening** of a government’s fiscal position. IMF Working Paper WP/00/172
- Creative accounting used by a government to circumvent rules by **hiding fiscal policies** in less visible positions. Deutsche Bundesbank Discussion Paper No 38/2004
- Measures that temporarily **embellish both the headline and the fiscal position** without a commensurate improvement in the underlying fiscal position. OECD paper No. 417
- An accounting device that gives the **illusion of change without substance** or makes the change appear larger. IMF Staff Discussion Note SDN/12/02
- The concept of creative accounting refers to the more or less unorthodox treatment of operations involving the general government, which affects the fiscal balance or public debt **but not, or far less, government net worth.** OECD paper No. 417

3. What is and is not a balance sheet?

Public Sector Balance Sheet Global Benchmarks: URLs for Financial Statements which include Balance Sheets and Footnotes

SN	Global Benchmark	Financial Statement URLs
1.	Australia, Commonwealth of	http://www.finance.gov.au/publications/commonwealth-consolidated-financial-statements/
2.	Canada, Government of	http://www.fin.gc.ca/purl/afr-eng.asp
3.	France, Republic of (<i>Central Government</i>)	http://www.performance-publique.budget.gouv.fr/budget-comptes-etat#.Vt9PWfkrIph
4.	Israel, Government of the State of	http://www.ag.mof.gov.il/NR/rdonlyres/9AD04A99-CAE1-4C0B-9B46-078D3222699C/0/FinancialReport2014.pdf
5.	New Zealand, Government of	http://www.treasury.govt.nz/government/financialstatements
6.	Swiss Confederation	http://www.efv.admin.ch/e/dokumentation/finanzberichterstattung/konsolid_rechnung_bund.php
7.	United Kingdom	https://www.gov.uk/government/collections/whole-of-government-accounts
8.	United States Government (<i>Central Government</i>)	https://www.fiscal.treasury.gov/fsreports/rpt/finrep/fr/fr_index.htm

Government Balance Sheet Comparison: Accounting vs. Statistics

International Accounting Standards:

- The impact of each transaction flows through the performance statement or the cash flow statement to impact either the assets or the liabilities on the balance sheet.
- The impact follows a framework that is based on the principle of reflecting economic reality.
- Each transaction can be independently audited to confirm proper accounting on all three financial statements.

International Macroeconomic Statistics:

- Balance sheets are end point compiled without transparent individual transaction documentation.
- While principles may be economic reality, policy edicts override principles.
- Large balance sheet line items are omitted to exempt from valuation.
- There is insufficient process of documentation to allow independent audit verification.
- Exempts certain significant transactions from impacting the balance sheet.

Clarification of Government Balance Sheet Misunderstandings

(1 of 2)

1. **Benchmarks:** Global benchmark government balance sheets exist and are prepared using internationally agreed upon standards.
2. **Goals:** Important goals of a balance sheet are to provide government fiscal transparency essential to a successful democracy and provide tools to improve decision-making.
3. **Standards:** Governments have internationally agreed upon standards, which have been developed over decades through world-class professional processes to prepare balance sheets.
4. **Framework:** The internationally agreed upon standards are based on rigorously adhering to a framework based on reflecting economic reality over legal formality or policy edicts.
5. **Harmonized:** The government and private sector international accounting standards are harmonized and customized to the public sector when appropriate.
6. **Accrual:** Balance sheets are prepared based on double-entry accrual accounting.
7. **Integrated:** Changes in the balance sheet are integrated from the performance statement or cash flow statement and are not made without a traceable flow.
8. **Cash Flow Changes:** Significant contractual changes in cash flows impact balance sheet values.
9. **Notes:** Each line of the balance sheet has a corresponding detailed financial note. 23

Clarification of Government Balance Sheet Misunderstandings

(2 of 2)

10. **Audits:** Independent audits of the balance sheet numbers and notes are the best practice.
11. **Pensions Standards:** Detailed standards exist for measuring pension liabilities.
12. **Government Pensions:** Government pension obligations do go on the balance sheet.
13. **Social Security:** Social security obligations do not go on the balance sheet.
14. **Future Balances:** NPVs of future balances do not go on the balance sheet.
15. **Fixed Assets:** Real estate and infrastructure can go on the balance sheet at replacement cost or “highest and best” use.
16. **Financial Assets:** Financial assets and liabilities go on the balance sheet at fair value or amortized cost.
17. **Net Worth:** Government balance sheets do have a difference between assets and liabilities, most often labeled net worth.
18. **Taxes and Social Commitments:** Neither the power to tax nor the socially expected expenses are included on the balance sheet.

Public Sector Balance Sheet Global Benchmarks: Assets and Liabilities Overview

SN	Assets Line Item	Range of Line Item as a % of GDP	SN	Liabilities Line Item	Range of Line Item as a % of GDP
1	Cash & Cash Equivalents	0.3% - 18.1%	13	Issued Currency	2.2% - 4.0%
2	Receivables	0.2% - 8.3%	14	Payables	0.4% - 8.9%
3	Marketable Securities	0.4% - 22.3%	15	Deferred Revenue	0.6% - 1.1%
4	Share Investments	0.3% - 14.5%	16	Borrowings	16.5% - 88.5%
5	Advances	0.1% - 10.9%	17	Insuranced Liabilities	1.0% - 44.1%
6	Loans	1.0% - 15.5%	18	Retirement Plan Liabilities	4.4% - 72.7%
7	Inventory	0.4% - 1.8%	19	Provisions	1.7% - 12.6%
8	PP&E	5.1% - 55.5%	20	Other Liabilities	0.2% - 14.1%
9	Equity Accounted Investments	2.3% - 4.9%	21	TOTAL LIABILITIES	20.2% - 195.3%
10	Intangible Assets and Goodwill	0.5% - 1.8%			
11	Other Assets	0.1% - 1.8%	22	NET WORTH	-149.2% - 37.8%
12	TOTAL ASSETS	12.2% - 114.4%			

Net Worth, which is total assets less total liabilities, is also referred to as Federal Debt (Canada), Net assets/equity (Israel, Switzerland), Net Liabilities (UK), and Net Position (United States).

Notes: Public Sector Balance Sheet Global Benchmarks include Australia, France, Israel, New Zealand, S. Africa, Swiss, UK, and USA.

Each Line of the Balance Sheet has Financial Statement Notes

SN	Global Benchmark	Number of Pages
1.	Australia, Commonwealth of	121 pages
2.	Canada, Government of	3 pages (Condensed) 34 pages (Full)
3.	France, Republic of <i>(Central Government)</i>	268 pages
4.	Israel, Government of the State of	2 pages (English) 94 pages (Hebrew)
5.	New Zealand, Government of	97 pages
6.	Swiss Confederation	53 pages
7.	United Kingdom	112 pages
8.	United States Government <i>(Central Government)</i>	102 pages

UK PP&E Assets

(As of 31 March 2014; GBP, Billions)

SN	Balance Sheet Item	Cost or Valuation	Depreciation	Net Book Value	Net Book Value / GDP	Adjusted Per Notes	Adjusted/ GDP	Notes
1.	Infrastructure Assets	£336.0	£57.8	£278.2	15%	£510.2	28%	a
2.	Buildings	257.6	39.4	218.2	12%			b
3.	Dwellings	96.8	6.0	90.8	5%			c
4.	Land	48.7	0.0	48.7	3%			
5.	Assets under Construction	42.5	0.0	42.5	2%			
6.	Military Equipment	72.5	39.2	33.3	2%			
7.	Plant and Machinery	46.6	29.3	17.3	1%			
8.	Transport Equipment	23.3	10.9	12.4	1%			
9.	IT Assets	13.0	7.7	5.3	0%			
10.	Furniture and Fittings	19.0	3.1	15.9	1%			
11.	Subtotal	956.0	193.4	762.6	42%	994.6		
12.	Investment Properties	13.0		13.0	1%	13.0		d
13.	Total Real Assets	£969.0	£193.4	£775.6	43%	£1,007.6	55%	
14.	SN 2+SN3+SN4+SN12	£416.1	£45.4	£370.7	20%			
15.	2014 GDP:	£1,816.4						

Notes:

- Infrastructure: Local highways is GBP59.1 billion and Highway agency is GBP111.0 billion for the total of GBP170.1 billion. Local is at historical cost and not replacement cost. If at replacement, understated by GBP232.0 billion. This would be 4.9 times greater than on books.
- Land and buildings are professionally valued at regular intervals.
- Council dwellings are valued at the existing use value for social housing.
- After initial recognition, investment properties are measured at fair value.

Net Worth and Net Debt Really Matter

Australia: First cited balance sheet metrics are net worth and change in net worth.

Canada: First focus is on total assets less total liabilities, referred to as Federal Debt. Second focus is on net debt.

France: Net worth is viewed as a measure of the extent to which assets controlled by that state are sufficient to cover liabilities.

Israel: Summary financials underscore net liabilities/equity deficit.

New Zealand: Net worth and net debt better reflect the underlying strength.

Switzerland: Summary tables highlight net assets/equity (including annual change and change from first consolidation) and net debt.

United Kingdom: Two main performance report measures for WGA are net deficit and net liabilities (net worth). Two of the main measures for fiscal management are the current deficit and public sector net debt.

United States: Highlights and double underscores Net Position (Assets Less Liabilities) and annual change.

Balance Sheet Net Debt Comparison

SN	Benchmark	Financial Statement					Balance Sheet	IMF Data				
		Date	Debt	Financial Assets	Net Debt	GDP	Net Debt / GDP	Debt / GDP	Net Debt / GDP	Gross Debt	Net Debt	Financial Assets
1	Australia, Commonwealth of	30 Jun 2015	430	386	44	1,637	3%	26%	17%	589	286	303
2	Canada, Government of	31 Mar 2015	665	337	329	1,975	17%	34%	36%	1,736	718	1,018
3	France, Republic of (Central Government)	31 Dec 2014	1,551	333	1,218	2,132	57%	73%	88%	2,038	1,873	164
4	Israel, Government of the State of	31 Dec 2014	796	97	698	1,094	64%	73%	63%	734	693	40
5	New Zealand, Government of	30 June 2015	113	104	9	244	4%	46%	9%	74	21	52
6	Swiss Confederation	31 Dec 2014	92	43	50	645	8%	14%	25%	298	161	138
7	United Kingdom	31 Mar 2014	1,096	359	737	1,713	43%	64%	79%	1,496	1,349	147
8	United States Government (Central Government)	30 Sep 2015	13,173	1,732	11,441	17,968	64%	73%	80%	18,840	14,362	4,478

Notes: Data from respective government financial statements and IMF World Economic Outlook (Oct 2015) database. Canada and United Kingdom as a percentage of prior year GDP due to 31 March fiscal year end.

Balance Sheet Net Debt Better Reflects Economic Reality Compared with Future Face Value

(2015 Preliminary Data)

Future Face Value of Debt as % of GDP			Balance Sheet Net Debt as % of GDP		
Rank	Country	Debt as % of GDP	Rank	Country	Net Debt as % of GDP
1.	Slovakia	52%	1.	Slovenia	8%
2.	Netherlands	67%	2.	Slovakia	25%
3.	Germany	72%	3.	Netherlands	39%
4.	Slovenia	83%	4.	Greece	39%
5.	Austria	86%	5.	Germany	40%
6.	France	96%	6.	Austria	45%
7.	Ireland	100%	7.	Ireland	57%
8.	Spain	101%	8.	France	64%
9.	Belgium	106%	9.	Spain	74%
10.	Portugal	128%	10.	Portugal	80%
11.	Italy	133%	11.	Belgium	83%
12.	Greece	178%	12.	Italy	133%

Notes: OECD Eurozone countries with debt in excess of financial assets. Source: EC AMECO and Eurostat databases. Net Debt calculated as FFV of debt, adjusted according to IPSAS/IFRS where required for any concessionary loans or rescheduled securities, less financial assets (ex. receivables). IPSAS/IFRS debt adjustments include Greece, Ireland, Portugal, and Spain data. Extensive granular analysis on Greece.

Public Sector Pensions Comparison

(Local Currency, Billions)

<u>SN</u>	<u>Country</u>	<u>Balance Sheet Pension Liability</u>	<u>Government Employee Pension Payments</u>	<u>Ratio of Pension Liability to Expenditures</u>
	<i>Balance Sheets:</i>			
1.	Australia, Commonwealth of			
2.	Canada, Government of			
3.	France, Republic of (Central Government)	€ 1,752	€ 53	33x
4.	Israel, Government of the State of			
5.	New Zealand, Government of			
6.	Swiss Confederation			
7.	United Kingdom	£1,302	£36	36x
8.	United States Government (Central Government)	\$6,719	\$249	27x
	<i>Extrapolated Based on EU Member State Average:</i>			
9.	Greece	€ 222	€ 6	34.6x

Note: Balance Sheet Pension Liability should be gross (not net of financial assets). Government Employee Pension Payments should be annual benefits paid and correspond to pension liabilities.

4. How is a balance sheet as a value creation tool?

The Benefits of a Proper and Timely General Government Balance Sheet

1. Increase the value of government assets and economic growth.
2. Decrease the value of government liabilities and risk of hidden financial weakness.
3. Improve transparency and accountability.
4. Combat corruption.

The IFS Green Budget (February 2016) – *Excerpt (Page 93)*

4.4 Using WGA to improve financial management in an era of change

Specific benefits of extending the use of financial accounting across the public sector, including:

- better financial analysis, through the use of techniques and systems developed for businesses and other organisations already using financial accounting;
- using the balance sheet to inform financial decision-making, with a consequent longer-term focus on the impact of those decisions;
- driving alignment across public sector bodies, with more consistency in accounting and internal financial reporting enabling improvements in their ability to work together to deliver public services;
- restricting the scope for financial engineering through adopting accounting standards that are set independently of government;
- improving transparency and accountability – for example, through the development of financial reports and presentations similar to those that listed companies use in communicating with their shareholders.

How a Balance Sheet is Used to Create Value

A. Better Measurement:

1. Total financial position on one page.
2. Measure changes in net worth.
3. Measure net debt.
4. Measure return on assets.

B. Better Management:

1. Empowers value creation analysis.
2. Improves financial risk (liabilities) management.
3. Historical and comparable comparisons.
4. Transparency improves performance.
5. Better financing terms.

Management Accounting Practices that Create and Protect Value: Examples

1. Capitalizing, not expensing, capital asset investments.
2. Annual depreciation as expense.
3. Revaluation of assets on internationally comparable basis.
4. Timely recognition of asset impairment.
5. Timely recognition of liability reserves.

Key Balance Sheet Metrics for Global Benchmarks

(2001 to 2015)

<u>SN</u>		<u>Rank #1</u>	<u>Rank #8</u>	<u>Median</u>	<u>Explanation</u>
1.	Net Worth Value Creation Ratio	NWI 69% of GDP	23%	199%	Change in GDP per unit change in Net Worth start point to end point.
2.	Net Worth Return on Asset Ratio	4%	-38%	-7%	Average annual change in net worth as a % of total assets.
3.	Net Worth % of GDP - Latest	38%	-158%	-62%	Latest period end net worth as a % of latest year GDP.
4.	Net Worth Annual % Change	19%	-13%	-4%	Average annual percentage change in net worth during period.
5.	Total Liabilities Value Creation Ratio	1156%	16%	75%	Change in GDP per unit change in Total Liabilities start point to end point.
6.	GDP Change to Debt Change Ratio	535%	52%	151%	GDP increase per unit of debt increase start point to end point.
7.	Net Debt % of GDP - Latest	3%	64%	30%	As reported balance sheet net debt as a % of GDP.

Notes: 2001 to 2015 data or all available data from this period.

Net Worth Value Creation Ratio: Full period change in GDP divided by change in Net Worth.

Net Worth Return on Asset Ratio: Change in net worth as a percentage of assets.

Net Worth as % of GDP - Latest: Latest period end (2014 or 2015) net worth divided by corresponding year GDP.

Net Worth Annual Percentage Change: Annual change in year end net worth.

Total Liabilities Value Creation Ratio: Change in GDP divided by Change in Liabilities

GDP to Debt Value Creation Ratio: GDP increase as a % of debt increase.

Net Debt % of GDP - Latest: Latest period end (2014 or 2015) net debt (debt less financial assets) derived from respective government balance sheets divided by corresponding year GDP.

Global Benchmark Summary Rankings

				Net Worth		Total		Net Debt	
	Global	Net Worth	Net Worth	% of GDP	Net Worth	Liabilities	GDP Δ to	% of GDP	
Rank	Benchmark	VCR	ROA	(Latest)	% Change	VCR	Debt Δ	(Latest)	Average
1	New Zealand	1	1	1	1	4	2	2	1.7
2	Switzerland	2	2	2	3	1	1	3	2.0
3	Australia	4	4	3	2	3	3	1	2.9
4	Canada	3	3	4	4	2	5	4	3.6
5	Israel	5	6	8	5	6	4	8	6.0
6	United Kingdom	7	5	5	8	7	6	5	6.1
7	United States	6	8	6	6	5	7	7	6.4
8	France	8	7	7	7	8	8	6	7.3

Net Worth Value Creation Ratio

*Change in GDP divided by Change in Net Worth**

Attributes full credit for change in GDP to government.

<u>SN</u>	<u>Global Benchmark</u>	<u>Net Worth VCR</u>	<u>Change in Net Worth</u>	<u>Change in GDP</u>	<u>Latest Fiscal Year</u>	<u>Latest Year Net Worth</u>	<u>Latest Year GDP</u>	<u>Beginning Year</u>	<u>Beginning Year Net Worth</u>	<u>Beginning Year GDP</u>	<u>Years of Data</u>
1	Australia, Commonwealth of	333%	-273	910	30-Jun-15	-309	1,637	2001	-36	727	15
2	Canada, Government of	1008%	-87	877	31-Mar-15	-612	1,975	2001	-525	1,098	15
3	France, Republic of (Central Government)	23%	-1,236	279	31-Dec-14	-2,770	2,132	2006	-1,534	1,853	9
4	Israel, Government of the State of	64%	-634	406	31-Dec-14	-1,727	1,094	2006	-1,093	688	9
5	New Zealand, Government of	NWI 69% of GDP	81	118	30-Jun-15	92	244	2001	11	126	15
6	Swiss Confederation	NWI 9% of GDP	5	58	31-Dec-14	-35	645	2009	-40	587	6
7	United Kingdom	41%	-608	249	31-Mar-14	-1,620	1,735	2010	-1,012	1,486	5
8	United States Government (Central Government)	62%	-11,763	7,346	30-Sep-15	-18,222	17,968	2001	-6,459	10,622	15

Notes: Net worth and GDP data in local currency. Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Net worth data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets. Canada and UK GDP data is prior year due to 31 March fiscal year end.

*Except New Zealand and Switzerland which are inverse due to a net worth increase (NWI).

Net Worth Return on Assets Ratios

(Change in Net Worth as a Percentage of Assets)

Historical Data

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	Average
1	Australia, Commonwealth of	-8%	-11%	11%	-39%	-13%	-18%	-14%	7%	13%	6%	8%	-1%	0.4%	2%	-4%
2	Canada, Government of	-0.1%	-1%	-6%	-9%	-8%	-15%	-2%	4%	6%	6%	3%	5%	4%	4%	-1%
3	France, Republic of <i>(Central Government)</i>	N/A	-38%	18%	-44%	-6%	-29%	-24%	9%	-32%	N/A	N/A	N/A	N/A	N/A	-18%
4	Israel, Government of the State of	N/A	-30%	-15%	-21%	-24%	-28%	-24%	-24%	38%	N/A	N/A	N/A	N/A	N/A	-16%
5	New Zealand, Government of	4%	4%	4%	-9%	-6%	-2%	-3%	4%	7%	18%	11%	14%	5%	8%	4%
6	Swiss Confederation	N/A	-1%	2%	4%	-3%	4%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1%
7	United Kingdom	N/A	-12%	-19%	-11%	2%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-10%
8	United States Government <i>(Central Government)</i>	-16%	-26%	-27%	-48%	-48%	-70%	-47%	-51%	-18%	-31%	-51%	-43%	-20%	-36%	-38%

Notes: Net worth and asset data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets.

Total Liabilities Value Creation Ratio

Change in GDP divided by Change in Liabilities

<u>SN</u>	<u>Global Benchmark</u>	<u>Total Liabilities VCR</u>	<u>Change in Liabilities</u>	<u>Change in GDP</u>	<u>Latest Fiscal Year</u>	<u>Latest Year Liabilities</u>	<u>Latest Year GDP</u>	<u>Beginning Year</u>	<u>Beginning Year Liabilities</u>	<u>Beginning Year GDP</u>	<u>Years of Data</u>
1	Australia, Commonwealth of	150%	609	910	30-Jun-15	841	1,637	2001	233	727	15
2	Canada, Government of	284%	309	877	31-Mar-15	1,024	1,975	2001	715	1,098	15
3	France, Republic of (Central Government)	16%	1,706	279	31-Dec-14	3,759	2,132	2006	2,053	1,853	9
4	Israel, Government of the State of	38%	1078	406	31-Dec-14	2,229	1,094	2006	1,151	688	9
5	New Zealand, Government of	96%	123	118	30-Jun-15	187	244	2001	63	126	15
6	Swiss Confederation	1156%	5	58	31-Dec-14	139	645	2009	134	587	6
7	United Kingdom	35%	711	249	31-Mar-14	3,189	1,735	2010	2,478	1,486	5
8	United States Government (Central Government)	52%	14,067	7,346	30-Sep-15	21,452	17,968	2001	7,385	10,622	15

Notes: Liabilities and GDP data in local currency. Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Liabilities data from respective government financial statements. France and Swiss Liabilities adjusted for pension commitments. Canada and UK GDP data is prior year due to 31 March fiscal year end.

The International Rules for Fixed Asset Accounting Reflect Economic Reality

1. Current assets valuation based on “highest and best use”, replacement cost, or historical cost.
2. Depreciation on current assets.
3. Initial recognition value on new assets and additions.
4. Depreciation on new assets and additions varies in part based on program maintenance.
5. Revaluation methodology.
6. Historical track record impacts valuation and depreciation.

Real Estate “Highest and Best Use” Highlights

- Under international accounting standards, balance sheet valuation can use “highest and best use” methodology
- Physically possible
- Financially feasible with additional investment
- Legally permissible
- Aggregated with other real estate or individual
- Applicable to a wide range of real estate including non-cash-generating
- Ample disclosure of methodology and assumptions

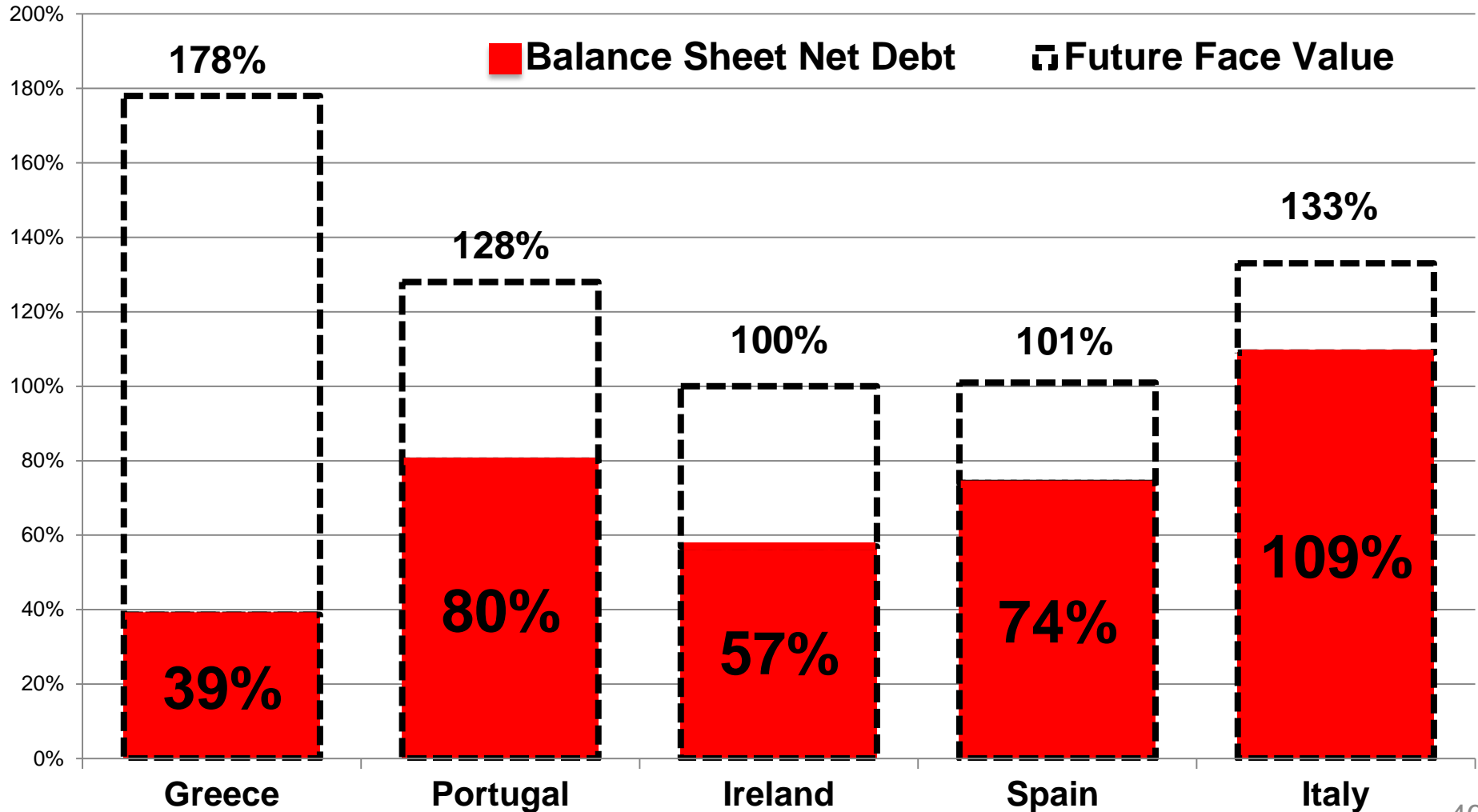
Opportunity Cost is a Core Principle of Economics and Should be Considered in Making Financial Decisions

- ***Microeconomics* by Pindyck and Rubinfeld:** Opportunity cost is the cost associated with opportunities that are forgone by not putting the firm's resources to their **highest-value use**.
- ***Essentials of Economics* by Krugman, Wells and Graddy:** More specifically, the opportunity cost of a choice is what you forgo by not choosing your **next best alternative**.
- ***Microeconomics* by Hubbard and O'Brien:** The opportunity cost of any activity is the **highest-valued alternative** that must be given up to engage in that activity.
- ***Economics* by Sloman and Wride:** The opportunity cost of any activity is the sacrifice made to do it. It is the **best thing that could have been done as an alternative**.
- ***Economics* by McConnell, Brue and Flynn:** An opportunity cost—the value of the **next best thing forgone**—is always present whenever a choice is made.
- ***Economics* by Arnold:** The **most highly valued opportunity or alternative forfeited** when we make a choice is known as opportunity cost.

5. Examples of mis-measurement.

Example: Greece Balance Sheet Net Debt is Much Lower than Peers vs. Much Higher Future Face Value

(% of GDP; 2015 Preliminary Data)



Net Interest Payments Better Reflect the Cost of Servicing Debt than GFN

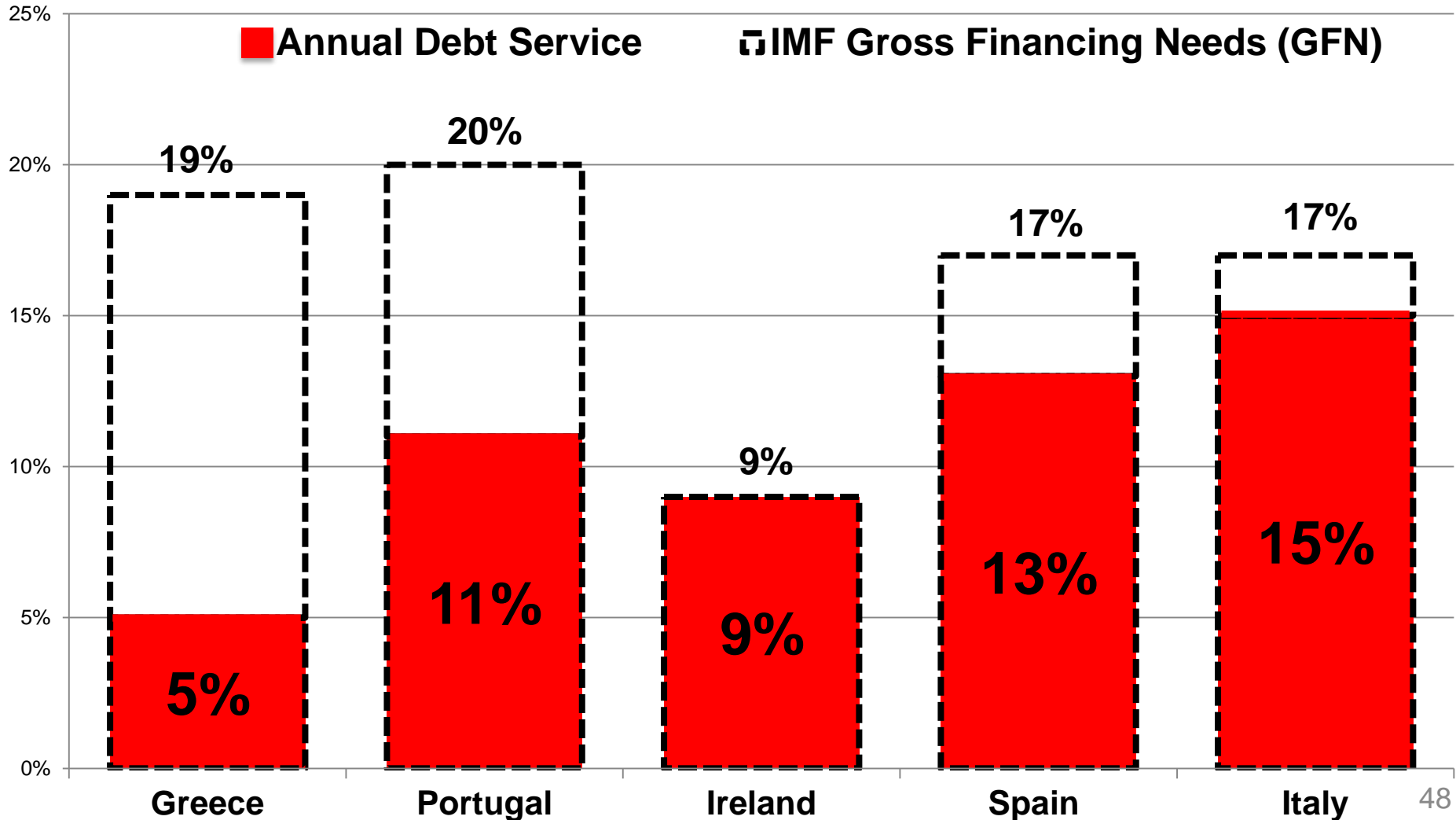
(2016 data; adjustment for sources of interest income in process.)

<u>SN</u>	<u>Country</u>	<u>Net Interest Payments % of GDP</u>	<u>SN</u>	<u>Country</u>	<u>Net Interest Payments % of GDP</u>
1.	Estonia	0.1%	15.	Poland	1.7%
2.	Luxembourg	0.4%	16.	France	2.0%
3.	Sweden	0.6%	17.	Austria	2.2%
4.	Greece	0.9%	18.	United Kingdom	2.4%
5.	Bulgaria	1.0%	19.	Malta	2.4%
6.	Czech Republic	1.0%	20.	Cyprus	2.5%
7.	Finland	1.1%	21.	Belgium	2.7%
8.	Latvia	1.2%	22.	Slovenia	2.9%
9.	Denmark	1.2%	23.	Spain	2.9%
10.	Netherlands	1.2%	24.	Ireland	3.0%
11.	Germany	1.4%	25.	Hungary	3.3%
12.	Slovakia	1.5%	26.	Croatia	3.5%
13.	Lithuania	1.6%	27.	Italy	4.1%
14.	Romania	1.6%	28.	Portugal	4.6%

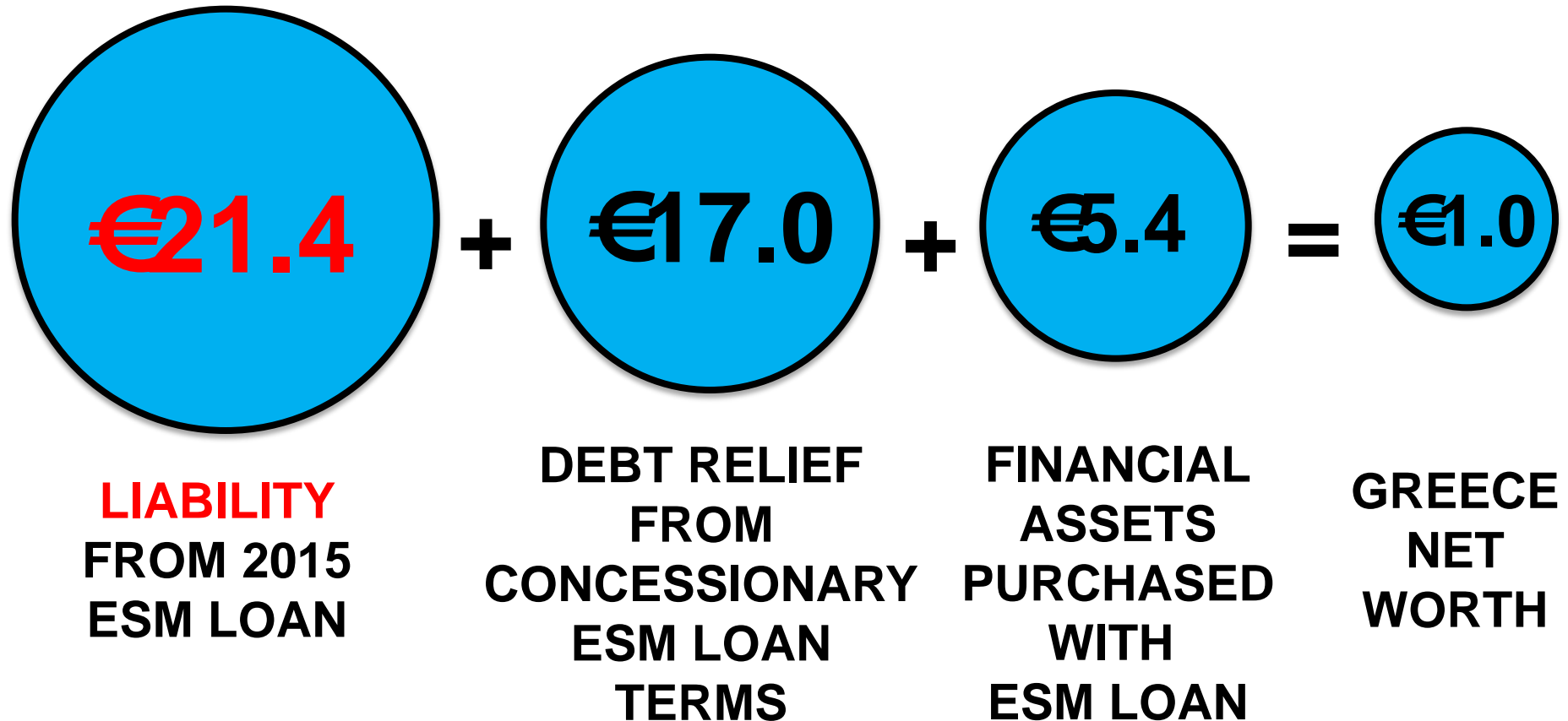
Notes: EC AMECO interest expenditure data (accessed 27 Feb 2016) which based on ESA 2010 is a “mixed” number of accrued interest and some but not all interest income. Greece metric has unique adjustments for interest and principal rebates, EC deferred interest, interest earned on and savings from ESM Third Programme fundings, and potential interest savings on T-bills moving in-line with peers. 47

Example: GFN Mixes Stocks, Flows, and Fiscal Policy Hiding the Debt's Cost

(% of GDP; 2016 Data)



2015 ESM Loans Debt Relief Increased Greece Net Worth



Example: In 2015, Greece Net Worth Increased €17 Billion from Third Programme Debt Relief on €21.4 Billion of Loans

During 2015, ESM made five concessionary loans to the CCC-rated Greece government for a total of €21.4 billion. The loans have an interest rate equal to AAA/Aa1-rated ESM cost of funds, which is less than 1%, not the yield-to-maturity of 7% to 8% on the longest maturity publicly traded Greece government bond. The loans have maturities out to 2059, 18-year grace periods, and weighted average lives of 32.5 years. Approximately, €16 billion of the proceeds were used to repay maturing debt and €5.4 billion to purchase financial assets of domestic banks, most of which was invested in 8% interest CoCos.

Before Third Programme				Post-Third Programme			
Assets		Liabilities / Net Worth		Assets		Liabilities / Net Worth	
Financial Assets	€0.0	Debt	€16.0	Financial Assets	€5.4	Debt	€4.4
		Total Liabilities	€16.0			Total Liabilities	€4.4
		Net Worth	-€16.0			Net Worth	€1.0
Total Assets	€0.0	Total Liabilities and Net Worth	€0.0	Total Assets	€5.4	Total Liabilities and Net Worth	€5.4

Note: The €21.4 billion of ESM loans are reported on the balance sheet at initial recognition value (also known informally as present value) which is amortized cost under international accounting rules and increase (accrete) to maturity value (known informally as future face value) each accounting period. The subsequent accretion impact to net worth is reduced by appreciation in the financial assets and debt relief from inflows of ESM funds.

Simplified Net Worth Impact Model

(€, billions)

Increase in Greece Net Worth (aka Debt Relief) is massive regardless of market yield-to-maturity.

Inputs:				
Funding for Investment	€ 5.4			
Fixed CoCo Rate	8.00%			
Funds for Debt Refinancing	€ 16.0			
Total Loans at Future Face Value	€ 21.4			
ESM Cost of Loans	1.00%			
Weighted Average Life	32.5			
GGB Yield-to-Maturity on Loan Funding Dates	8.03%			
		Non-Compliant with IPSAS/IFRS Sensitivity of Hypothetical Yield-to-Maturity Rates		
	<u>IPSAS/IFRS</u>	<u>7%</u>	<u>6%</u>	<u>5%</u>
Financial Assets	€ 5.4	€ 5.4	€ 5.4	€ 5.4
Initial Recognition of Financial Asset Loan	€ 1.2	€ 1.3	€ 1.6	€ 2.0
Net Worth Increase (aka Debt Relief)	€ 4.2	€ 4.1	€ 3.8	€ 3.4
Debt Refinanced	€ 16.0	€ 16.0	€ 16.0	€ 16.0
Initial Recognition of Refinancing Loans	€ 3.2	€ 3.8	€ 4.7	€ 5.8
Net Worth Increase (aka Debt Relief)	€ 12.8	€ 12.2	€ 11.3	€ 10.2
Total Net Worth Increase (aka Debt Relief)	€ 17.0	€ 16.3	€ 15.1	€ 13.6
Total Net Worth Increase (aka Debt Relief) as % of Future Face Value	79%	76%	71%	64%

Notes: IPSAS/IFRS values based on actual model; to get this output using simplified model, adjust Wgt. Avg. Life to 27.5 years (due to differences in timing of actual cash flows). Actual ESM cost of loans currently less than 1%.

Real Estate Values Have the Potential to Increase over 100% when Government Bond Yields Decline to Portugal, Reducing NPLs

<i>Illustrative Example:</i>					
	Recent Value		€ 114,000		
	Annual Rental Income		€ 16,000		
	10-Year Gov't Bond Yields	Real Estate Risk Premium	Required Rate of Return (Cap Rate)	Real Estate Value	% Increase from Current Value
Recent Value	11%	3%	14%	€114,000	NA
	10%	3%	13%	€ 123,000	8%
	9%	3%	12%	€ 133,000	17%
	8%	3%	11%	€ 145,000	27%
	7%	3%	10%	€ 160,000	40%
	6%	2%	8%	€ 200,000	75%
	5%	2%	7%	€ 229,000	101%
	4%	2%	6%	€ 267,000	134%
Portugal	3%	2%	5%	€320,000	181%
	2%	2%	4%	€ 400,000	251%

Note: Real Estate Value is Annual Rental Income divided by the Cap Rate.

6. Examples of mis-management.

Example: Value Destruction from Revenue Losses Following Greek Government Misguided Financial Management

- Reduced corporate profits
- Increased net operating tax losses
- Diminished real estate profits
- Reduced taxes on wages
- Reduced social security payments
- Diminished stock market gains
- Increased stock market loss tax shields
- Reduced profits from higher borrowing costs
- Increased tax arrears defaults from failed businesses

Example: Greece Government Financial Assets Losses Following Government Misguided Financial Management

(€, billions)

		Estimated Loss
		<i>(31 Dec 2013 – 19 Feb 2016)</i>
1.	Banks Investments (HFSF)	€ 40.5
2.	Listed Equities (ex. Bank Stocks)	€ 5.7
3.	Unlisted Equities	€ 12.2
4.	Total Losses	€ 58.4
5.	GDP (2015)	€ 175.7
6.	Total Losses as % of GDP	33%

Example: Approaching €200 Billion in Opportunity Costs to Greece from Not Managing with Balance Sheet Information Since 2012

- Financial Assets: Equity and fixed income losses.
- Real Estate: Destroyed the real estate market.
- NPLs: Avoidable increase in NPLs.
- Debt Buyback: Unwise debt buybacks based on flawed accounting contributed to liquidity crisis.
- Bank Forced GGB Sale: Destruction of bank equity as financial assets on forced sale of GGBs.
- Revenue Loss: Inaccurate debt data depressed economy.
- Borrowing Costs: Inaccurate debt data increased borrowing costs.
- Repos: Forced intra-government repo funding.
- Timing Games: Tax installments, arrears, IRR schemes.

Example: Bipolar Value Destructive Cash Buffer Demands

- In December 2012, IMF demands that Greece use €11 billion of cash buffer to buy back 2% long-term bonds. In 2015, IMF demands that Greece rebuild its cash buffer and adds this amount to annual debt service to show how Greek debt is too high.
- Also in December 2012, the Greek systemic banks were forced to sell bonds at a steep discount to face losing the opportunity to increase their core equity as the bonds increased in value. In 2015, the government needed to borrow more money to invest in a banking system now frozen for over five years in order to cover a core equity short-fall.

7. Wrap-Up

Managing a total government balance sheet to create and protect value requires a multi-disciplinary experienced team including but not limited to (in alphabetical order): accountants, economists, executive (turnaround) managers, financial engineers, lawyers, politicians, and technocrats.

Appendices

Net Worth Value Creation Ratio

*Change in GDP divided by Change in Net Worth**

Historical Data

Attributes full credit for change in GDP to government.

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
1	Australia, Commonwealth of	83%	91%	-105%	31%	197%	142%	45%	NWI 23%	NWI 41%	NWI 21%	NWI 32%	3932%	NWI 2%	NWI 8%
2	Canada, Government of	19347%	2511%	237%	323%	307%	-143%	1313%	NWI 12%	NWI 19%	NWI 15%	NWI 8%	NWI 14%	NWI 15%	NWI 19%
3	France, Republic of (Central Government)	N/A	4%	NWI 580%	7%	109%	23%	-28%	NWI 151%	52%	N/A	N/A	N/A	N/A	N/A
4	Israel, Government of the State of	N/A	25%	73%	64%	54%	45%	37%	51%	NWI 245%	N/A	N/A	N/A	N/A	N/A
5	New Zealand, Government of	NWI 195%	NWI 85%	NWI 89%	25%	61%	211%	40%	NWI 164%	NWI 94%	NWI 386%	NWI 181%	NWI 140%	NWI 62%	NWI 98%
6	Swiss Confederation	N/A	744%	NWI 18%	NWI 75%	415%	NWI 20%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	United Kingdom	N/A	36%	16%	40%	NWI 37%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	United States Government (Central Government)	119%	87%	63%	48%	42%	27%	-24%	24%	215%	167%	109%	126%	187%	98%

Notes: Net worth and GDP data in local currency. Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Net worth data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets. Canada and UK GDP data is prior year due to 31 March fiscal year end.

*Except inverse in years where there is a net worth increase (NWI).

Net Worth Return on Assets Ratios

(Change in Net Worth as a Percentage of Assets)

There is a wide performance gap on net worth return of assets ratios.

						2011-2014	Historical
SN	Global Benchmark	2014	2013	2012	2011	Average	Average
1	Australia, Commonwealth of	-11%	11%	-39%	-13%	-13%	-4%
2	Canada, Government of	-1%	-6%	-9%	-8%	-6%	-1%
3	France, Republic of <i>(Central Government)</i>	-38%	18%	-44%	-6%	-18%	-18%
4	Israel, Government of the State of	-30%	-15%	-21%	-24%	-23%	-16%
5	New Zealand, Government of	4%	4%	-9%	-6%	-2%	4%
6	Swiss Confederation	-1%	2%	4%	-3%	0.3%	1%
7	United Kingdom	-12%	-19%	-11%	2%	-10%	-10%
8	United States Government <i>(Central Government)</i>	-26%	-27%	-48%	-48%	-37%	-38%

Notes: Net worth and asset data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets. Historical average from oldest available data point (since 2001) to newest data point: Australia 2001-2015, Canada 2001-2015, France 2006-2014, Israel 2006-2014, NZ 2001-2015, Switzerland 2010-2014, UK 2011-2014, US 2001-2015.

Net Worth as a Percentage of GDP

Historical Data

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
1	Australia, Commonwealth of	-19%	-17%	-14%	-17%	-7%	-4%	1%	5%	4%	1%	-1%	-4%	-4%	-4%	-5%
2	Canada, Government of	-31%	-32%	-33%	-33%	-33%	-33%	-28%	-29%	-31%	-34%	-37%	-40%	-43%	-46%	-48%
3	France, Republic of (Central Government)	N/A	-130%	-113%	-123%	-104%	-105%	-95%	-82%	-88%	-83%	N/A	N/A	N/A	N/A	N/A
4	Israel, Government of the State of	N/A	-158%	-149%	-150%	-150%	-147%	-142%	-135%	-132%	-159%	N/A	N/A	N/A	N/A	N/A
5	New Zealand, Government of	38%	34%	31%	28%	39%	48%	52%	56%	53%	50%	34%	26%	17%	14%	9%
6	Swiss Confederation	N/A	-5%	-5%	-6%	-6%	-6%	-7%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	United Kingdom	N/A	-93%	-86%	-71%	-63%	-68%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	United States Government (Central Government)	-101%	-102%	-101%	-100%	-95%	-90%	-79%	-69%	-64%	-64%	-65%	-63%	-62%	-62%	-61%

Notes: Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Net worth data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets. Canada and United Kingdom as a percentage of prior year GDP due to 31 March fiscal year end.

Net Worth Annual Percentage Change

SN	Global Benchmark	2014	2013	2012	2011	2011-2014 Average	Historical Average
1	Australia, Commonwealth of	-26%	18%	-149%	-91%	-62%	14%
2	Canada, Government of	-0.4%	-4%	-6%	-6%	-4%	-1%
3	France, Republic of <i>(Central Government)</i>	-16%	7%	-20%	-3%	-8%	-8%
4	Israel, Government of the State of	-10%	-5%	-7%	-9%	-8%	-6%
5	New Zealand, Government of	15%	17%	-26%	-15%	-2%	19%
6	Swiss Confederation	-4%	6%	10%	-8%	1%	3%
7	United Kingdom	-13%	-24%	-16%	3%	-13%	-13%
8	United States Government <i>(Central Government)</i>	-5%	-5%	-9%	-10%	-7%	-8%

Notes: Net worth data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets. Historical average from oldest available data point (since 2001) to newest data point: Australia 2001-2015, Canada 2001-2015, France 2006-2014, Israel 2006-2014, NZ 2001-2015, Switzerland 2010-2014, UK 2011-2014, US 2001-2015.

Net Worth Annual Percentage Change

Historical Data

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	Average
1	Australia, Commonwealth of	-17%	-26%	18%	-149%	-91%	-448%	-77%	55%	707%	152%	69%	-5%	3%	12%	14%
2	Canada, Government of	-0.1%	-0.4%	-4%	-6%	-6%	-12%	-1%	2%	3%	3%	1%	2%	1%	1%	-1%
3	France, Republic of (Central Government)	N/A	-16%	7%	-20%	-3%	-14%	-12%	4%	-12%	N/A	N/A	N/A	N/A	N/A	-8%
4	Israel, Government of the State of	N/A	-10%	-5%	-7%	-9%	-11%	-10%	-8%	11%	N/A	N/A	N/A	N/A	N/A	-6%
5	New Zealand, Government of	14%	15%	17%	-26%	-15%	-5%	-6%	9%	15%	55%	37%	66%	26%	64%	19%
6	Swiss Confederation	N/A	-4%	6%	10%	-8%	9%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3%
7	United Kingdom	N/A	-13%	-24%	-16%	3%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-13%
8	United States Government (Central Government)	-3%	-5%	-5%	-9%	-10%	-18%	-12%	-11%	-3%	-5%	-10%	-9%	-4%	-6%	-8%

Notes: Net worth data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets.

Total Liabilities Value Creation Ratio

Change in GDP divided by Change in Liabilities

Historical Data

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
1	Australia, Commonwealth of	42%	44%	-813%	29%	198%	124%	29%	561%	-465%	-3183%	232%	1463%	673%	3484%
2	Canada, Government of	370%	-434%	130%	223%	255%	-134%	61%	-585%	2309%	-3431%	2080%	6288%	-1098%	-339%
3	France, Republic of (Central Government)	N/A	4%	-20%	6%	71%	22%	-19%	29%	43%	N/A	N/A	N/A	N/A	N/A
4	Israel, Government of the State of	N/A	23%	61%	66%	49%	41%	18%	41%	36%	N/A	N/A	N/A	N/A	N/A
5	New Zealand, Government of	57%	737%	-189%	32%	24%	89%	11%	45%	573%	124%	158%	-976%	138%	452%
6	Swiss Confederation	N/A	1950%	3125%	769%	411%	5679%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	United Kingdom	N/A	30%	14%	32%	-120%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	United States Government (Central Government)	90%	77%	49%	47%	49%	24%	-15%	17%	166%	153%	101%	126%	78%	82%

Notes: Liabilities and GDP data in local currency. Nominal GDP from EC AMECO and IMF World Economic Outlook (Oct 2015) databases. Liabilities data from respective government financial statements. France and Swiss Liabilities adjusted for pension commitments. Canada and UK GDP data is prior year due to 31 March fiscal year end.

GDP Change to Debt Change Ratio

Global Benchmarks

GDP Increase as % of Debt Increase

		Historical	Forecast
		2001 -	2015 -
<u>SN</u>	<u>Global Benchmark</u>	<u>2014</u>	<u>2017</u>
1	Australia, Commonwealth of	209%	186%
2	Canada, Government of	102%	155%
3	France, Republic of <i>(Central Government)</i>	52%	88%
4	Israel, Government of the State of	199%	137%
5	New Zealand, Government of	274%	364%
6	Swiss Confederation	535%	GIDD
7	United Kingdom	62%	121%
8	United States Government <i>(Central Government)</i>	54%	87%

GDP Change to Debt Change Ratio

EU Member State Rankings

GDP Increase as % of Debt Increase

		Historical	Forecast			Historical	Forecast
		2001 -	2015 -			2001 -	2015 -
<u>Ranking</u>	<u>Country</u>	<u>2014</u>	<u>2017</u>	<u>Ranking</u>	<u>Country</u>	<u>2014</u>	<u>2017</u>
28	Greece	10%	35%	14	Finland	97%	66%
27	Portugal	25%	102%	13	Hungary	101%	252%
26	Italy	41%	113%	12	Czech Republic	137%	344%
25	Ireland	41%	315%	11	Malta	147%	577%
24	Cyprus	48%	GIDD	10	Poland	163%	134%
23	France	52%	88%	9	Latvia	171%	211%
22	Spain	52%	108%	8	Slovakia	180%	257%
21	Slovenia	58%	553%	7	Lithuania	196%	258%
20	United Kingdom	62%	121%	6	Romania	233%	142%
19	Croatia	64%	92%	5	Luxembourg	262%	365%
18	Germany	79%	GIDD	4	Denmark	283%	436%
17	Austria	83%	185%	3	Sweden	302%	395%
16	Netherlands	85%	237%	2	Estonia	747%	4797%
15	Belgium	95%	102%	1	Bulgaria	2052%	148%

Net Worth Historical Data

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
1	Australia, Commonwealth of	-\$309	-\$265	-\$211	-\$257	-\$103	-\$54	\$15	\$68	\$44	\$5	-\$10	-\$33	-\$31	-\$32	-\$36
2	Canada, Government of	-\$612	-\$612	-\$609	-\$584	-\$550	-\$519	-\$464	-\$458	-\$467	-\$482	-\$495	-\$502	-\$511	-\$518	-\$525
3	France, Republic of (Central Government)	N/A	-€ 2,770	-€ 2,398	-€ 2,570	-€ 2,149	-€ 2,094	-€ 1,838	-€ 1,636	-€ 1,712	-€ 1,534	N/A	N/A	N/A	N/A	N/A
4	Israel, Government of the State of	N/A	-1,727₪	-1,577₪	-1,502₪	-1,401₪	-1,289₪	-1,159₪	-1,051₪	-972₪	-1,093₪	N/A	N/A	N/A	N/A	N/A
5	New Zealand, Government of	\$92	\$81	\$70	\$60	\$81	\$95	\$100	\$106	\$97	\$84	\$54	\$40	\$24	\$19	\$11
6	Swiss Confederation	N/A	-CHF 35	-CHF 34	-CHF 36	-CHF 40	-CHF 37	-CHF 40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	United Kingdom	N/A	-£1,620	-£1,428	-£1,147	-£986	-£1,012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	United States Government (Central Government)	-\$18,222	-\$17,701	-\$16,909	-\$16,101	-\$14,785	-\$13,473	-\$11,456	-\$10,204	-\$9,206	-\$8,916	-\$8,459	-\$7,710	-\$7,105	-\$6,820	-\$6,459

Notes: Net worth data from respective government financial statements. France and Swiss Net Worth adjusted for pension commitments. UK net worth adjusted for undervaluation of infrastructure assets.

GDP Historical Data

SN	Global Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
1	Australia, Commonwealth of	\$1,637	\$1,601	\$1,551	\$1,502	\$1,454	\$1,357	\$1,259	\$1,235	\$1,132	\$1,038	\$961	\$892	\$829	\$780
2	Canada, Government of	\$1,985	\$1,975	\$1,894	\$1,831	\$1,770	\$1,663	\$1,567	\$1,646	\$1,566	\$1,487	\$1,411	\$1,325	\$1,244	\$1,181
3	France, Republic of (Central Government)	€ 2,178	€ 2,132	€ 2,117	€ 2,087	€ 2,059	€ 1,998	€ 1,939	€ 1,996	€ 1,946	€ 1,853	€ 1,772	€ 1,711	€ 1,637	€ 1,594
4	Israel, Government of the State of	1,154₪	1,094₪	1,056₪	1,001₪	937₪	876₪	818₪	778₪	738₪	688₪	641₪	607₪	577₪	574₪
5	New Zealand, Government of	\$244	\$238	\$225	\$214	\$209	\$200	\$190	\$188	\$183	\$169	\$161	\$153	\$142	\$134
6	Swiss Confederation	CHF 643	CHF 645	CHF 635	CHF 624	CHF 619	CHF 606	CHF 587	CHF 597	CHF 573	CHF 538	CHF 507	CHF 489	CHF 474	CHF 470
7	United Kingdom	£1,871	£1,816	£1,735	£1,665	£1,619	£1,556	£1,486	£1,520	£1,484	£1,407	£1,330	£1,255	£1,190	£1,121
8	United States Government (Central Government)	\$17,968	\$17,348	\$16,663	\$16,155	\$15,518	\$14,964	\$14,419	\$14,719	\$14,478	\$13,856	\$13,094	\$12,275	\$11,511	\$10,978

Expenditure vs. Revenue Data Comparison

		Total Expenditure / <u>Total Revenue</u>	Current Expenditure / <u>Current Revenue</u>	<u>Delta</u>
1.	Greece	120%	109%	11%
2.	Ireland	116%	100%	16%
3.	Italy	107%	99%	8%
4.	Spain	111%	98%	13%
5.	Portugal	114%	105%	9%
6.	Canada	101%	94%	7%
7.	France	108%	98%	10%
8.	Switzerland	101%	89%	12%
9.	United Kingdom	113%	104%	9%
10.	United States	120%	108%	12%

Eurozone Pension and Primary Expenditures

SN	Country	Pension Expenditures		Country	Primary Expenditures	
		% of Revenue & Rank	% of GDP & Rank		Purchasing Power Parity Per Capita & Rank	% of GDP & Rank
1	Greece	40% / 1st	17% / 1st	Greece	€9,046 / 15th	45% / 9th
2	Portugal	35% / 2nd	14% / 5th	Luxembourg	€30,630 / 1st	44% / 11th
3	Italy	34% / 3rd	16% / 2nd	Finland	€17,462 / 2nd	57% / 1st
4	Spain	32% / 4th	12% / 10th	Austria	€17,190 / 3rd	50% / 4th
5	Austria	30% / 5th	15% / 4th	Belgium	€16,559 / 4th	51% / 3rd
6	Netherlands	29% / 6th	13% / 6th	Netherlands	€16,074 / 5th	45% / 8th
7	France	29% / 7th	15% / 3rd	France	€15,853 / 6th	55% / 2nd
8	Germany	27% / 8th	12% / 9th	Germany	€14,109 / 7th	42% / 12th
9	Slovenia	26% / 9th	11% / 11th	Ireland	€12,790 / 8th	35% / 18th
10	Malta	25% / 10th	9% / 13th	Italy	€12,339 / 9th	46% / 6th
11	Lithuania	24% / 11th	8% / 18th	Cyprus	€10,900 / 10th	46% / 7th
12	Belgium	24% / 12th	12% / 8th	Slovenia	€10,577 / 11th	47% / 5th
13	Latvia	24% / 13th	8% / 16th	Spain	€10,408 / 12th	40% / 14th
14	Cyprus	24% / 14th	9% / 14th	Malta	€9,911 / 13th	41% / 13th
15	Slovakia	24% / 15th	8% / 15th	Portugal	€9,427 / 14th	44% / 10th
16	Finland	23% / 16th	13% / 7th	Slovakia	€8,284 / 16th	40% / 15th
17	Luxembourg	22% / 17th	10% / 12th	Estonia	€7,826 / 17th	39% / 16th
18	Estonia	20% / 18th	8% / 17th	Lithuania	€6,837 / 18th	33% / 19th
19	Ireland	20% / 19th	7% / 19th	Latvia	€6,295 / 19th	35% / 17th
20	18 Country EZ Peer Average	25%	12%	18 Country EZ Peer Average	€ 12,971	44%
21	Greece as % of EZ Average	160%	142%	Greece as % of EZ Average	70%	102%
22	Performance Gap to EZ Average	€ 12	€ 9	Performance Gap to EZ Average	(€ 43)	€ 2
23	Greece GDP (billions):	€ 180				
24	Greece Revenue (billions):	€ 80				

Notes: Eurostat and EC data.

UK WGA PP&E Additions

(GBP, Billions)

<u>Period</u>	<u>Infrastructure Assets</u>	<u>Buildings</u>	<u>Dwellings</u>	<u>Land</u>	<u>Assets Under Construction</u>	<u>Military Equipment</u>	<u>Plant & Machinery</u>	<u>Transport Equipment</u>	<u>IT Hardware, Software and Equipment</u>	<u>Furniture, Fittings and Other</u>	<u>Total</u>	<u>Note</u>	<u>WGA</u>
2013 - 2014	£3.7	£4.2	£3.4	£0.3	£19.0	£0.2	£2.7	£0.7	£1.1	£0.8	£36.1	Note 13	31-Mar-14
2012 - 2013	£4.0	£8.9	£3.0	£0.4	£18.1	£0.9	£2.4	£0.4	£0.9	£0.7	39.7	Note 13	31-Mar-14
2011 - 2012	£4.4	£15.1	£2.9	£2.8	£19.6	£0.6	£2.7	£0.4	£0.9	£0.7	50.1	Note 14	31-Mar-13
2010 - 2011	£4.7	£11.4	£3.4	£0.5	£21.4	£0.7	£2.9	£0.2	£1.1	£0.9	47.2	Note 14	31-Mar-12
2009 - 2010	£5.5	£10.2	£3.7	£0.2	£20.3	£0.5	£3.4	£0.6	£1.2	£1.1	£46.7	Note 14	31-Mar-11
% Change 2009/2010 to 2013/2014	-33%	-59%	-8%	50%	-6%	-60%	-21%	17%	-8%	-27%	-23%		
Change 2009/2010 to 2013/2014	-£1.8	-£6.0	-£0.3	£0.1	-£1.3	-£0.3	-£0.7	£0.1	-£0.1	-£0.3	-£10.6		

UK Highest and Best Use Estimate by Category

Infrastructure assets' include highways infrastructure assets held by the Highways Agency of £111.0 billion (2012-13: £108.9 billion), **and by local authorities of £59.1 billion** (2012-13: £56.3 billion). Local authorities prepare their accounts on a historical cost basis for these assets, compared to the depreciated replacement cost basis used by all other government entities. Local authorities are working towards calculating a valuation on a depreciated replacement cost basis for inclusion in the WGA. The best proxy measure available for depreciated replacement cost is the calculated asset value used by the ONS from their perpetual inventory model reflected in the National Accounts. The 2013 National Accounts estimated the value of the road network at £291.8 billion (2012- 13: £275.3 billion) as at 31 December 2013²². **On this basis, infrastructure assets are likely to be understated because of this treatment by at least £232 billion.** 2014 UK WGA page 93.

[£291.8 billion / £59.1 billion = 4.9 times.]

EU General Government Total Expenditures Average 46% of GDP

		Total Expenditure % of GDP			Total Expenditure % of GDP
SN	Country	% of GDP	SN	Country	% of GDP
1	Finland	58%	15	Slovakia	44%
2	France	57%	16	Spain	43%
3	Denmark	55%	17	UK	43%
4	Belgium	54%	18	Malta	43%
5	Greece	53%	19	Czech Republic	43%
6	Austria	52%	20	Poland	42%
7	Sweden	51%	21	Luxembourg	42%
8	Italy	51%	22	Cyprus	40%
9	Hungary	50%	23	Bulgaria	40%
10	Portugal	48%	24	Estonia	40%
11	Slovenia	48%	25	Latvia	37%
12	Croatia	48%	26	Ireland	36%
13	Netherlands	45%	27	Romania	36%
14	Germany	44%	28	Lithuania	36%
			29	Average:	46%

EZ Average Real GDP Percentage Change from 2001 to 2015 Ranges from +75% to -6%

(€, billions; at 2010 reference levels)

SN	COUNTRY	Real GDP		
		2001	2015	% Change
1.	Slovakia	43.3	75.7	75%
2.	Lithuania	19.5	33.4	71%
3.	Latvia	13.2	21.4	63%
4.	Estonia	11.3	17.6	55%
5.	Ireland	130.8	194.7	49%
6.	Luxembourg	30.9	45.7	48%
7.	Malta	5.4	7.9	45%
8.	Slovenia	28.7	37.1	29%
9.	Belgium	314.0	382.3	22%
10.	Austria	257.1	309.5	20%
11.	Spain	902.6	1,071.4	19%
12.	Cyprus	14.7	17.4	19%
13.	Germany	2,398.7	2,782.6	16%
14.	France	1,806.3	2,082.6	15%
15.	Netherlands	566.5	651.0	15%
16.	Finland	162.2	186.3	15%
17.	Portugal	170.4	171.6	1%
18.	Italy	1,583.8	1,548.0	-2%
19.	Greece	197.7	185.5	-6%
20.	EZ Average			30%

Note: EC AMECO database accessed on 25 Feb 2016.

Is Raising the Real Tax Rate Becoming Counterproductive in the EU?

<u>SN</u>	<u>Country</u>	<u>Real Tax Rate</u>	<u>Tax Liberation Day 2015</u>	<u>SN</u>	<u>Country</u>	<u>Real Tax Rate</u>	<u>Tax Liberation Day 2015</u>
1.	Belgium	59%	6 August	15.	Croatia	46%	18 June
2.	France	58%	29 July	16.	Poland	45%	14 June
3.	Austria	56%	25 July	17.	Estonia	45%	13 June
4.	Hungary	54%	17 July	18.	Portugal	44%	12 June
5.	Greece	53%	14 July	19.	Lithuania	44%	10 June
6.	Germany	52%	10 July	20.	Slovenia	44%	8 June
7.	Italy	50%	2 July	21.	Spain	43%	7 June
8.	Romania	48%	23 June	22.	Denmark	43%	7 June
9.	Finland	47%	22 June	23.	Luxembourg	42%	2 June
10.	Sweden	47%	21 June	24.	Bulgaria	38%	18 May
11.	Slovakia	47%	19 June	25.	United Kingdom	35%	9 May
12.	Czech Republic	46%	19 June	26.	Ireland	32%	28 April
13.	Netherlands	46%	18 June	27.	Malta	30%	19 Apr
14.	Latvia	46%	18 June	28.	Cyprus	24%	31 March

Notes: From "The Tax Burden of Typical Workers in EU 28 - 2015" -- Institut Economique Molinari and EY.

Tax Liberation Day: Date through which work is devoted to paying taxes for workers in each country.