OECD Economics Department Working Papers No. 1228

Government debt indicators: Understanding the data

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https://dx.doi.org/10.1787/5jrxv0ftbff2-en

OECD

Unclassified **ECO/WKP(2015)46**

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **29-Jun-2015**

English - Or. English

ECONOMICS DEPARTMENT

ECO/WKP(2015)46
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By Debra Bloch and Falilou Fall

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Abstract

Government Debt Indicators: Understanding the Data

There is no single "best" indicator for analysing general government debt. This paper examines the various issues in defining and measuring debt, and explores other data which could be useful, both within and beyond the general government debt concept, to better track and analyse fiscal risks and sustainability issues. Measures from the broadest view of debt – gross financial liabilities – to the most comprehensive accounting of asset and liability positions – net worth – are all helpful metrics. So, too, are narrower data on specific issues, such as future pension liabilities, government guarantees and debt composition. Better data reporting, including more complete metadata and broader data collection, are needed to allow for an arsenal of comparable debt concepts to better anticipate future fiscal pressures.

Keywords: public debt, general government, financial liabilities, financial assets, net worth, contingent liabilities, pension liabilities, government guarantees, national accounts, non-financial assets, debt composition

JEL codes: E010; E62; H6

Indicateurs de dette publique : comprendre les données

Aucun indicateur n'est meilleur que les autres pour analyser la dette publique. Ce document passe en revue les différentes questions qui se posent pour définir et mesurer la dette, et analyse d'autres données qui pourraient être utiles, dans le périmètre de définition de la dette des administrations publiques et au-delà, pour mieux identifier et analyser les risques budgétaires et les questions de viabilité à long terme. Les mesures de la dette, dans son acception la plus large – engagements financiers bruts – jusqu'à la comptabilisation la plus exhaustive des positions créditrices et débitrices – situation financière nette –, sont tous des indicateurs utiles. Comme le sont également les données plus ciblées sur certaines questions précises comme les engagements futurs au titre des retraites, les garanties de l'État ou la composition de la dette. Il convient d'améliorer la transmission de données, y compris de métadonnées plus complètes, et d'élargir la collecte de données pour élaborer tout un arsenal de définitions comparables de la dette afin de mieux anticiper les tensions futures sur le budget.

Mots-clés : dette publique, administrations publiques, engagements financiers, actifs financiers, passif éventuel, engagements au titre des retraites, garanties d'État, comptabilité nationale, actifs non financiers, composition de la dette

Classification JEL : E010 ; E62 ; H6

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GOVERNMENT DEBT INDICATORS: UNDERSTANDING THE DATA

By Debra Bloch and Falilou Fall[1]

1. Gross debt is only a part of the story

1. Most analyses of the sustainability of public finances focus on general government debt, and more specifically government gross debt. This concept, however, provides only a partial view on fiscal risks and sustainability, and should be considered along with other indicators for assessing the current state of government finances and future sustainability issues. Furthermore, debt data are frequently a source of confusion, as various definitions, coverage and valuation methods exist, often cited without adequate metadata. This paper will first examine the various issues in defining and measuring debt, and will then explore other data which could usefully be examined, both within and beyond general government debt, to better track and analyse fiscal risks and sustainability issues.

2. Government gross debt serves to monitor contractual liabilities and should include explicit future liabilities such as civil servant pension liabilities. Net debt, which takes into account government financial assets, is relevant for solvency analysis. Beyond these two headline indicators, comprehensive balance sheets are necessary to evaluate net worth developments, but are currently available for only a few countries. Implicit and other off-balance-sheet liabilities should also be estimated and monitored to assess fiscal risks (Kopits, 2014). While no single indicator stands out as the "best" for all analytical needs, there is a need for a broader set of data, along with more complete data collection and precise metadata, to allow for an arsenal of comparable debt concepts to better anticipate future fiscal pressures.

1.1. Government gross debt: different definitions and measurement issues

3. General government gross debt is the headline indicator most often used when analysing government debt. However, there are several measures of gross debt, with indicators differing in terms of coverage, instruments and valuation. These different dimensions can give different results for gross debt depending on individual country debt characteristics.

4. Differences in headline debt indicators can be confusing. Data published by the major international organisations are often conflicting, and explaining the differences in published debt data is challenging. Debt data are frequently based on the accounting rules detailed in the System of National Accounts (SNA) and the European System of National and Regional Accounts (ESA). Other often-cited measures of gross debt include the Maastricht debt definition which is used by the European Union in the

1. The authors are members of the Economics Department of the OECD. They thank Peter Van de Ven for his invaluable help in explaining the improvements in the National Accounts framework and his comments on earlier drafts. The authors also thank Jean-Marc Fournier, Paul Goebel, Peter Hoeller, Christian Kastrop, Jean-Luc Schneider and Jorrit Zwijnenburg for comments on earlier drafts, Mabelin Villarreal-Fuentes for her important statistical contribution and Celia Rutkoski for assistance in preparing the document. This paper is part of an OECD project on government debt and fiscal frameworks. The other papers include an OECD Economic Policy Paper (Fall et al., 2015) that summarises the whole project, a working paper that focuses on the limits to government debt sustainability (Fournier and Fall, 2015) and a working paper on macroeconomic uncertainties, prudent debt target and fiscal rules (Fall and Fournier, 2015).

Stability and Growth Pact (SGP) framework (Box 1), the gross debt measure based on the IMF Government Finance Statistics definition, and the IMF/OECD/World Bank Public Sector Debt Database public debt measure.

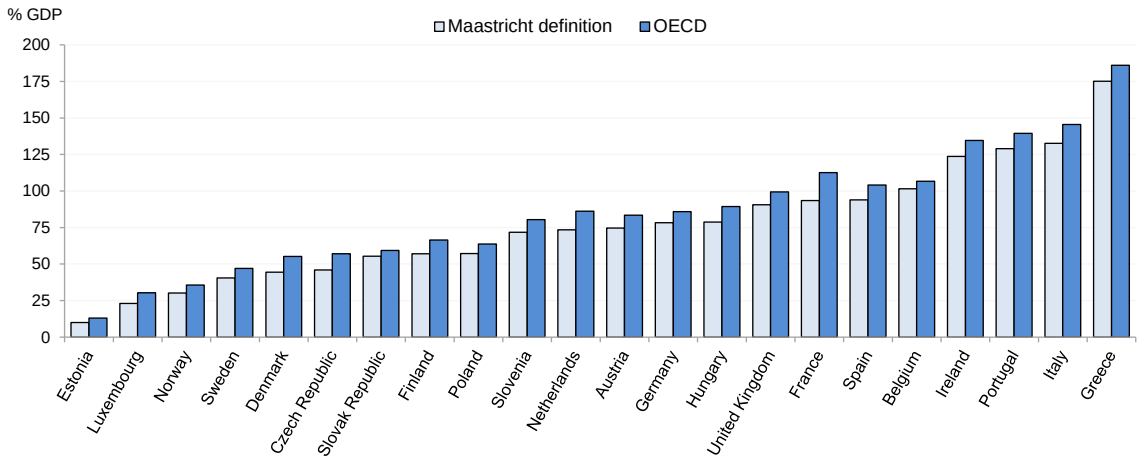
Box 1. The Maastricht debt concept and its impact on fiscal policy

Maastricht debt is defined as gross debt of general government at nominal value outstanding at the end of the year, consolidated at the general government level. It covers government liabilities in the form of currency along with deposits, loans and securities other than shares. The Maastricht debt concept excludes certain financial instruments, such as financial derivatives and other accounts payable (e.g. trade credits). The Maastricht debt is used within the European fiscal framework of the Excessive Deficit Procedure (EDP) and is therefore also known as EDP debt. Apart from the difference in the coverage of financial debt instruments, the main difference compared to the SNA debt definition is that debt instruments are calculated at their nominal value where applicable instead of market value, which means that the debt figures are not affected by market fluctuations. For all countries, the Maastricht debt definition is lower than debt according to the National Accounts definition (Figure 1).

The Maastricht debt has gained importance for EU countries as it is used to verify whether EU countries respect the debt and deficit rules of the Stability and Growth Pact (SGP). The weight given to this measure has improved the international comparability of the relevant debt figures within the European Union, but it also has some drawbacks. It has led to fiscal gimmickry by countries struggling to respect the SGP (Ynesta et al., 2013). Fiscal gimmickry alters the credibility of the debt measure and may paint a too rosy picture of debt developments.[2]

Figure 1. General government gross debt according to the Maastricht and the OECD (national accounts) definition

2013



Source: OECD Economic Outlook No. 95 database, June 2014.

5. Table 1 compares data for 2009 taken from four recent publications by the OECD and the IMF. Explanations of certain differences are clearly noted, while others require Herculean investigating to understand. Better metadata would help to clear up this confusion.

2. See Koen and van den Noord (2005) for an analysis of fiscal gimmickry in Europe.

Table 1. General government gross debt in 2009 as reported in various international publications

	IMF World Economic Outlook, April 2014	OECD Economic Outlook No. 95, June 2014[1]	IMF(2014) Government Financial Statistics Yearbook 2013[2]	OECD (2014) National Accounts at a Glance 2013
Australia[3]	16.7	19.4	40.6	37.4
Austria	69.2	74.3	73.1	74.0
Belgium	95.7	101.0	99.8	99.8
Canada[3]	81.3	87.4	100.6	102.9
Chile	5.8			13.4
Czech Republic	34.2	40.8	33.5	40.9
Denmark	40.7	49.3	49.3	51.3
Estonia	7.1	12.6	12.8	12.4
Finland	43.5	51.8	51.5	51.8
France	79.2	91.4	91.4	91.2
Germany	74.5	77.5	77.5	77.4
Greece	129.7	138.3	137.9	134.3
Hungary	79.8	86.4	86.0	86.7
Iceland[3]	88.0	94.5	120.3	119.8
Ireland	64.4	71.1	67.8	71.9
Israel	75.3	75.3		89.5
Italy	116.4	132.4	132.2	128.0
Japan[4]	210.2	188.7	204.1	212.2
Korea[5]	33.8	31.0		33.5
Luxembourg	15.5	19.2	15.5	19.0
Mexico	43.9			37.7
Netherlands	60.8	67.6	67.6	67.6
New Zealand[3]	25.7	34.0	53.4	..
Norway	43.3	49.0	49.0	48.9
Poland	50.9	57.6		58.4
Portugal	83.7	94.0	94.0	93.5
Slovak Republic	35.6	40.4	39.6	40.4
Slovenia	35.1	43.3		44.0
Spain	54.0	63.3	63.1	62.9
Sweden[3]	42.6	50.2	51.5	52.2
Switzerland	49.7	47.5	49.3	37.5
Turkey	46.1		56.4	
United Kingdom	67.1	72.1	73.0	79.1
United States[3]	86.1	85.8	105.1	89.5

1. Data refer to general government gross financial liabilities, i.e. including shares and other equity and financial derivatives.
2. Data valued at market value, except for Czech Republic, Luxembourg, Slovak Republic and the United States where data are valued at face value.
3. Unfunded and underfunded pension liabilities, which are reported within SNA data for Australia, Canada, Iceland, New Zealand, Sweden and the United States, are excluded from the IMF World Economic Outlook and the OECD Economic Outlook to improve cross-country comparability.
4. Data for Japan are on an unconsolidated basis except for the OECD Economic Outlook, where consolidation is estimated.
5. Data for Korea are on an unconsolidated basis.

6. The data published in the OECD Economic Outlook, shown in Column 2 of Table 1 and used throughout this paper, refer to total general government gross financial liabilities excluding liabilities related to pensions. Columns 1 and 4 refer to gross debt as defined by the System of National Accounts

(SNA),[3] including only general government financial liabilities that require payments of principal and interest.[4] Finally, Column 3 refers to gross debt based on the IMF Government Financial Statistics reporting system, and includes – as in the case of the SNA – liabilities of government in relation to the underfunding of government employee pension schemes.[5]

Instrument coverage

7. Instrument coverage can vary when referring to government debt. As stated above, the SNA definition refers to debt as all liabilities that are obligations of a payment of future interest and/or principal to a creditor. This includes currency and deposits, securities other than shares and financial derivatives, loans, insurance technical reserves, and other accounts payable. This definition excludes financial instruments such as shares, equity and financial derivatives which are not strictly speaking debt. However, non-debt financial liabilities are generally quite small for the general government sector, and therefore total financial liabilities are often used to proxy gross debt, as is the case in this paper. Figure 2 shows the breakdown by instrument for total general government financial liabilities in 2012.

8. Furthermore, the classification of instruments may vary from country to country. An important example of this is unfunded and underfunded government employee pension liabilities which are recorded in general government gross liabilities for a small number of countries: Australia, Canada, Iceland, New Zealand, Sweden and the United States, in line with the latest recommendations codified in SNA 2008. Here, it should be noted that (implicit) liabilities related to unfunded government employee pension schemes, which are intertwined with social security type of pension systems, are generally not recognised and recorded as such. In this respect, ESA 2010 slightly differs from SNA 2008 in that liabilities related to unfunded government schemes as a general rule are not recorded. Differences in the institutional set-up of pension schemes across countries, and also the slightly different interpretations in the SNA and the ESA, pose problems of international comparability, most obviously between the above mentioned countries and other OECD countries where these liabilities remain off-balance.[6] The OECD Economic Outlook and the IMF World Economic Outlook currently remove these liabilities from their published general government gross debt tables to enable a direct comparison of debt across countries. The full implementation of SNA 2008 and ESA 2010, including the reporting of pension liabilities of unfunded and underfunded government employee pension schemes, would facilitate a more robust analysis of debt across countries and enable these publications to display a wider array of comparable debt indicators.

3. The System of National Accounts (SNA) is a set of internationally agreed concepts, definitions, classifications and rules for the compilation of national accounts.

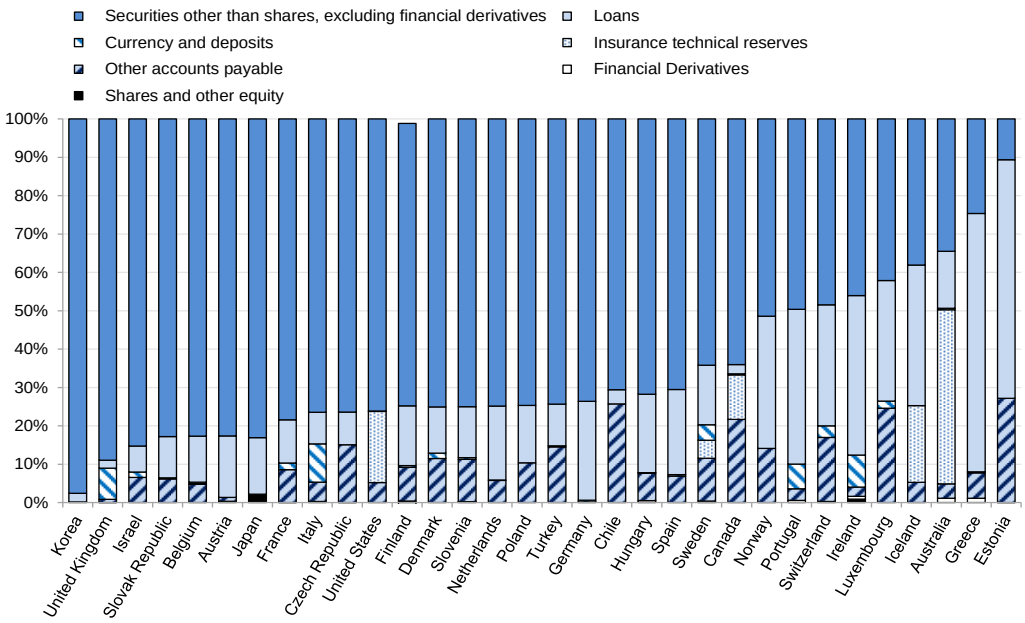
4. Non-debt instruments – shares and other equity, and financial derivatives – are quite small, and only relevant for a small number of countries. Gross financial liabilities allows for more comparable data and longer time series.

5. Unfunded government employee pension schemes, which may be intertwined with social security type schemes, are typically not recorded as liabilities. According to ESA 2010, liabilities related to government sponsored pension schemes are not recognised at all, if the schemes are unfunded. See also further explanations below.

6. The differences in pension systems across countries give rise to other international comparability issues as well; see also below.

Figure 2. Structure of government financial liabilities by instrument

2012



Note: Data for Switzerland refer to 2011. Data refer to the consolidated general government sector, with the exception of Chile, Japan and Korea where data are non-consolidated.

Source: OECD National Accounts Statistics (database), Financial Balance Sheet – consolidated, accessed 22 July 2014 and Financial Balance Sheet – non-consolidated, accessed 18 August 2014.

9. Finally, instrument coverage evolves with successive generations of national accounts. The latest versions, SNA 2008 and ESA 2010, were in the process of being implemented as this study was prepared. Given this timing, National Accounts data shown throughout this study are based on SNA93, with the principle data sources being the OECD National Accounts database and the OECD Economic Outlook No. 95 database.[7] Table 2 compares the liability portion of financial balance sheets from the previous National Accounts standards (SNA93) and the new standards (SNA 2008). The explicit inclusion of pension entitlements and standardised guarantees will improve the coverage of liabilities and allow for better comparisons in the future.

10. The move from SNA 93 to SNA 2008 affects the headline government gross financial liabilities indicator differently depending upon the country. As debt is generally expressed as a per cent of GDP, the impact on GDP will also affect the debt indicator. GDP increased across OECD countries with the implementation of the latest accounting standards, notably due to new accounting rules regarding R&D.[8] Inversely, better accounting for pension liabilities and government guarantees generally implies higher government gross financial liabilities. Consequently, the switch to SNA 2008 accounting standards gives mixed results, implying higher government gross debt to GDP ratios for some countries, such as Austria (12 percentage points of GDP higher in 2010), while lower ratios for others, such as Italy (5 percentage points of GDP lower in 2010).

7. For Australia, Canada, Israel, Korea, Mexico and the United States, the implementation of SNA 2008 was completed earlier, and these data are included in the Economic Outlook No. 95 database used in this study.

8. The increase of GDP with the implementation of SNA 2008 methodology averaged 3.8 percentage points across OECD countries for 2010, with 2.2 percentage points due to the change in the treatment of R&D (OECD 2015).

Table 2. Comparison of liability instruments on the financial balance sheet: SNA93 vs SNA 2008

SNA 1993	SNA 2008
	Monetary gold and SDRs Monetary gold Special drawing rights (SDRs) advances
Currency and deposits Currency Transferable deposits Other deposits	**Currency and deposits** Currency Transferable deposits Other deposits
Securities other than shares Short-term securities Long-term securities Financial derivatives	**Debt securities** Short-term debt securities Long-term debt securities **Financial derivatives and employee stock options**
Loans	**Loans**
Shares and other equity	**Equity and investment fund shares/units**
Insurance technical reserves Net equity of households in life insurance reserves Net equity of households in pension funds Prepayments of premiums and reserves against outstanding claims	**Insurance pension and standardised guarantees** Non-life insurance technical reserves Life insurance and annuity entitlements Pension entitlements, claims of pension funds on pension managers Provisions for calls under standardised guarantees
Other accounts payable Trade credits and advances Other accounts payable, except trade credits and advances	**Other accounts payable** Trade credits and advances Other accounts payable, excluding trade credits and advances

Institutional coverage

11. Institutional coverage may also differ when looking at government gross debt. Following the nomenclature of the IMF General Finance Statistics (GFS), three levels can be distinguished:

- Central government (GL1);
- Central government plus social security funds and extra-budgetary units (GL2);
- General government (as above plus state and local governments) (GL3).

12. The System of National Accounts offers two different approaches for reporting subsectors of general government. For the first, the general government sector (S13) is broken down into four subsectors: central government (S1312), state government (S1322), local government (S1332), and social security funds (S1301), with the understanding that social security funds at each level of government are reported in S1301 rather than at the government level. Alternatively, countries may report three subsectors (central government (S131), state government (S132), and local government (S133)), including social security funds in each sub-level of government.

13. Table 3 illustrates a breakdown of instrument coverage and government sector coverage for Canada in 2010 (Dippelsman et al., 2012). Both the institutional sector and the debt instruments are broken down by category following the IMF Government Finance Statistics (GFS) definitions, which are fully aligned to the instruments distinguished in SNA 2008. In this respect, it can be noted that some important categories of guarantees, which may provide important information for fiscal sustainability analysis, are considered as “off-budget” items.

Table 3. Gross debt by level of government and instrument: Canada

Per cent of GDP, 2010

	GL1 – central government	GL2 – consolidated central government (GL1 plus social security and extra-budgetary units)	GL3 – consolidated general government (GL2 plus, local and state government)
D1 = debt securities and loans	38.3	38.3	66.8
D2 = D1 + SDRs, currency and deposits	38.6	38.6	67.3
D3 = D2 + accounts payable	43.4	43.5	90.6
D4 = D3 + IPSGS (Insurance, pension, and standardised guarantee schemes)	52.5	52.6	104.2

Source: Dippelsman, R., C. Dziobek and C. A. Gutiérrez Mangas (2012), "What Lies Beneath: The Statistical Definition of Public Sector Debt", *IMF Staff Discussion Note*, No. 12/09.

14. Both the SNA and GFS classify public corporations and the central bank outside of the general government sector. However, some governments (for example, the United Kingdom) include public corporations in a "whole-of-government" approach in their national reports. The SNA and GFS also allow for such an extended reporting of the "public sector", i.e. general government *plus* public corporations, although in practice reporting is confined to general government. Such additional reporting would allow for a more comprehensive picture of the whole public sector, thus improving transparency and accountability.

Valuation methods

15. A third dimension which can hinder the comparability of debt figures across countries is valuation. To be comparable across countries, debt liabilities would ideally be valued according to the same accounting methods. Different methods of valuation exist (Table 4), and in some instances the differences resulting from these different methods can be large.

Table 4. Common valuation principles

Book value	The value at which equity or other capital assets or liabilities are recorded in the balance sheet of an entity. This may reflect face value, fair market value, current market price or nominal value.
Face value	The value that appears on the face of a debt security being the amount that the issuing entity promises to pay to the holder when the security matures. Also known as the par value.
Fair market value	A market-equivalent value, defined as the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction. It thus represents an estimate of what could be obtained if the creditor had sold the financial claim.
Market value	The price at which a stock, bond or commodity was most recently bought or sold.
Nominal value	The amount the debtor owes to the creditor, which comprises the outstanding principal amount including any accrued interest.

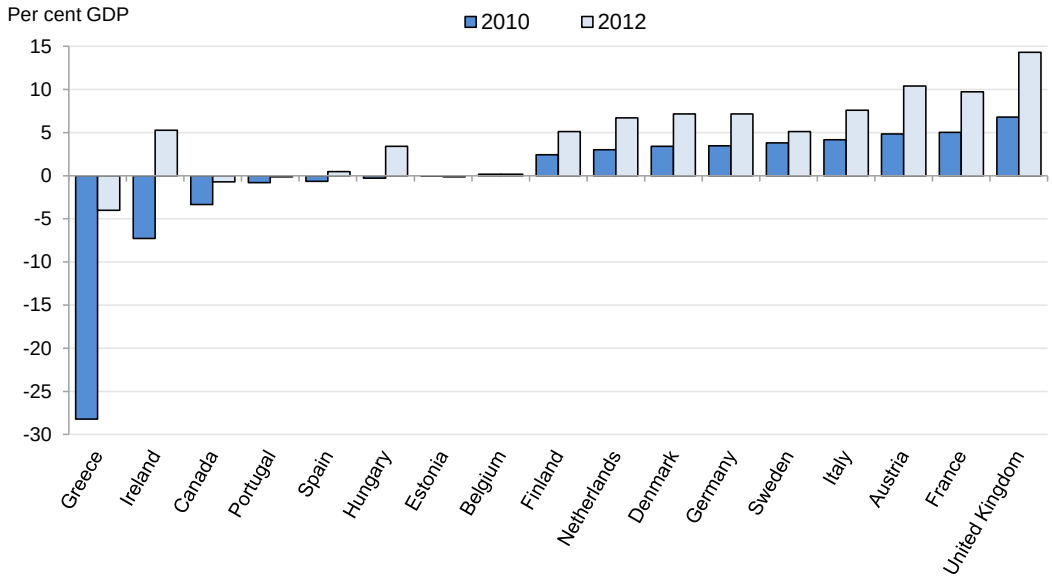
Source: System of National Accounts 2008; Australian National Accounts: Financial Accounts, June 2014; OECD Glossary of Statistical Terms.

16. According to SNA 2008, the relevant valuation principles for financial assets and liabilities are as follows: "For the balance sheets to be consistent with the accumulation accounts of the SNA, every item in the balance sheet should be valued as if it were being acquired on the date to which the balance sheet relates. This implies that when they are exchanged on a market, assets and liabilities are to be valued using a set of prices that are current on the date to which the balance sheet relates and that refer to specific assets. Financial claims that are not traded on organized financial markets are valued at the amount the debtor

must pay to the creditor to extinguish the claim".[9] Therefore, tradable debt securities are typically valued at market prices, while items such as loans, currency and deposits and other accounts payable are valued at nominal value. However, countries do not always follow this methodology. The United States, for example, values debt securities at book value rather than market value. Better metadata are needed to clarify the valuation methods used by instrument and to ensure data comparability.

17. Different valuation methods can indeed produce very different results. As illustrated in Figure 3, Greek debt at market value was approximately 28% of GDP lower than its face value in 2010. Indeed, the market value of debt depends on assessments of creditworthiness, which in the case of Greece resulted in an important decline in the price of debt securities, driving down the market value of debt. For Ireland, this tendency was reversed after 2010, highlighting an improvement in market confidence in Irish debt. For the majority of countries shown, the market value was higher than the face value over both periods, reflecting declining interest rates and continued confidence in government securities.

Figure 3. Difference in valuation method of gross debt in selected OECD countries



Note: General government gross debt at market value less general government gross debt at face value.
Source: IMF, Government Finance Statistics Yearbook (GFSY), extracted 15 July 2014.

Consolidation of debt

18. Consolidation of debt across government levels also matters. Consolidation eliminates debt instruments which are both owed and owned by different units within government in order to avoid double counting. For example, loans to state governments by the central government should be recorded as state government debt, but not as debt of general government as a whole. However, in some cases, data are presented without consolidation which can overstate the level of debt in comparison with countries presenting data on a consolidated basis. Currently Chile, Japan and Korea report only unconsolidated general government sector financial balance sheets, although for the case of Japan the OECD Economic Outlook provides an estimate for consolidated general government financial liabilities in order to improve cross-country comparability.

9. System of National Accounts 2008, Paragraph 13.16. http://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf.

1.2. Details within the headline measure matter

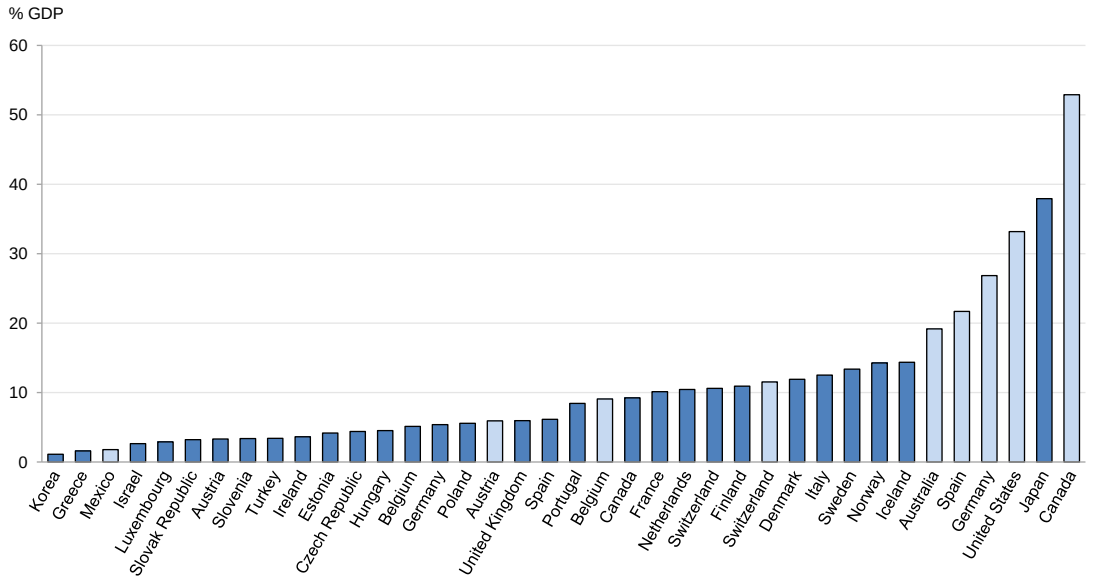
19. Information contained within general government gross debt can be important for better understanding both current and future fiscal pressures. Data on sub-national debt can highlight issues which might be hidden in consolidated debt data. Information on the composition of debt can also be useful. The breakdown between externally-held and domestically-held debt, the split between foreign-denominated debt and debt held in local currency, and finally the maturity structure of debt can be helpful in analysing fiscal pressures and sustainability issues.

Sub-national debt

20. Over the last ten years, sub-national bodies have contributed to the increase of general government debt in many countries. State or local government debt represents more than 10% of GDP in 16 OECD countries, with sub-national debt higher than 20% of GDP in Spain, Germany, the United States, Japan and Canada (Figure 4). State and local debt together represent more than 20% of unconsolidated general government debt in the United States, Sweden, Spain, Estonia, Australia, Germany, Norway, Switzerland and Canada (Figure 5). The evolution of state and local debt can be of interest in analysing debt sustainability, as shown by the example of the United States, where state and local financial liabilities soared from a low of 10% of GDP in 1999 to nearly 35% of GDP in 2011.

Figure 4. Sub-central government debt

2012

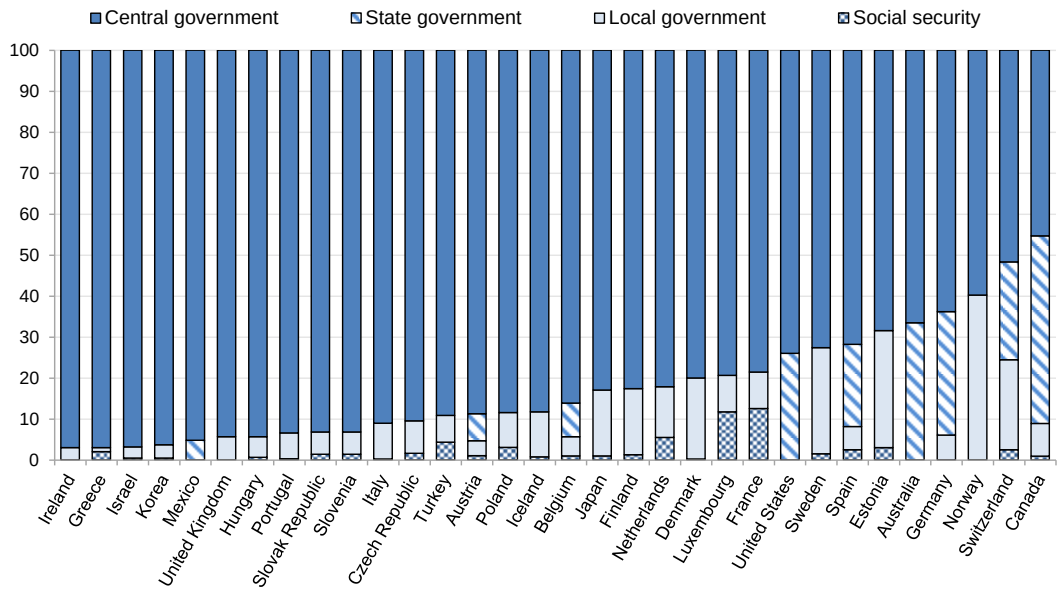


Note: Light blue bars indicate state government liabilities; dark blue bars indicate local government liabilities. Financial liabilities are shown excluding shares and financial derivatives. Data are consolidated within sectors, except for Japan, Korea and the United States. Data refer to 2012 except for Switzerland (2011), Mexico (2009) and New Zealand (2007).

Source: OECD National Accounts Statistics (database), Financial Balance Sheet – consolidated and Financial Balance Sheet – non-consolidated, accessed 26 August 2014, OECD Economic Outlook (database), accessed 26 August 2014.

Figure 5. Distribution of government debt across levels of government

2012



Note: Data for Switzerland refer to 2011. Data are consolidated within sectors, except for Japan, Korea and the United States.

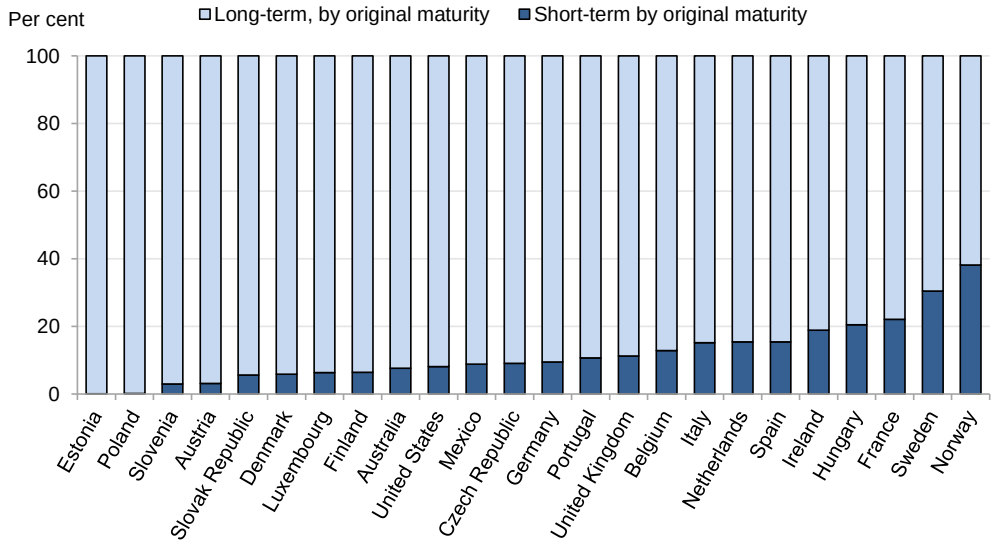
Source: OECD National Accounts Statistics (database) Financial Balance Sheets – non-consolidated and Financial Balance Sheets – consolidated, accessed 22 July 2014 and 26 August 2014.

Debt composition

21. Debt characteristics such as the percentage of externally-held debt, the amount of foreign-denominated debt and the maturity structure differ across countries and may constrain fiscal policy. The composition of government liabilities influences both the cost of debt, in terms of market confidence, and the risks related to the rollover of outstanding government debt. Composition may also affect policy flexibility by imposing constraints on fiscal policy choices.

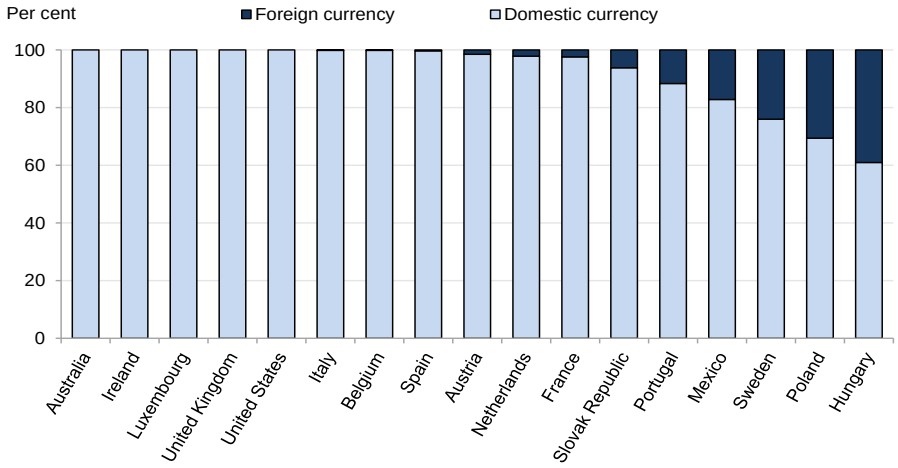
22. The composition of government debt can also have macroeconomic impacts (Lojsch et al., 2011). For instance, in advanced economies, the government bond yield curve serves as a benchmark for pricing private sector bonds. The maturity composition of government debt affects the yield curve and hence the financing conditions of the private sector, with possible crowding out effects (Figure 6). Also, with a high share of short-term debt the government may be vulnerable to an increase in monetary policy rates. As illustrated by the recent euro area crisis, some countries (Spain, Portugal) faced sharp increases of interest rates rendering the roll-over of debt very costly. In the case of foreign currency denomination of debt (Figure 7), governments are exposed to exchange rate risks, which could affect the cost of debt.

Figure 6. Breakdown of general government debt by maturity in selected OECD countries
2013



Source: IMF Quarterly Public Debt database, accessed 23 September 2014; Eurostat, accessed 1 September 2014.

Figure 7. General government debt by currency denomination in selected OECD countries
Fourth quarter 2013

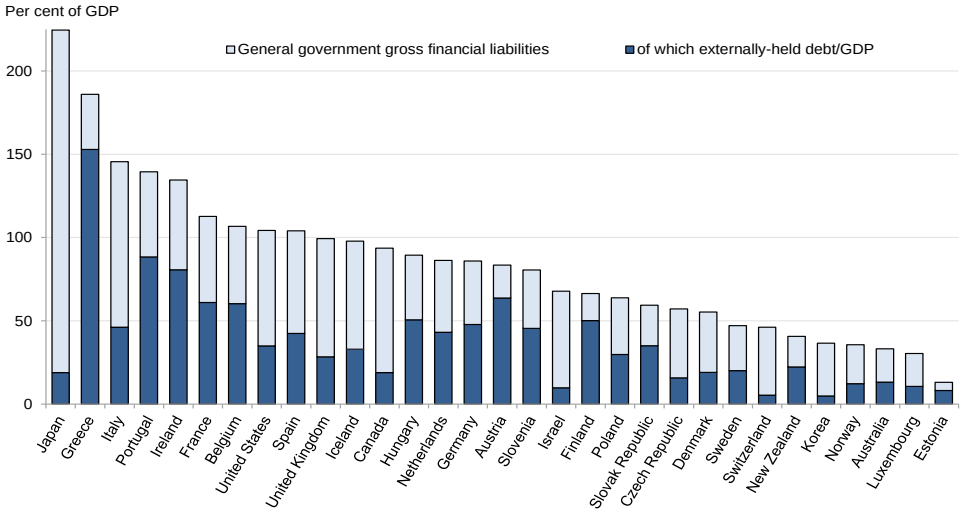


Source: IMF Quarterly Public Debt database, accessed 23 September 2014.

23. Finally, debt held externally could have an influence on a country's room for manoeuvre, forcing debtor nations to impose fiscal austerity to appease foreign creditors. Over three-quarters of Greece's gross debt is held externally (Figure 8), with strong pressure coming from creditors for drastic fiscal tightening. Conversely, while boasting the highest general government gross financial liabilities of the OECD area, Japan does not depend much on foreign investors with less than 10% of externally-held government debt. The majority of general government debt is owned by large and stable domestic institutional investors, including the Japan Post Bank and the Government Pension Fund, which hold nearly half of the public domestic debt. In addition, the Bank of Japan owns almost one-tenth of government debt, which allows for greater flexibility and stability in debt management.

Figure 8. Externally-held general government debt as a percentage of GDP

Fourth quarter, 2013



Source: Joint External Debt Hub (JEDH), accessed 22 September 2014; OECD Economic Outlook (database), accessed 22 September 2014.

2. Going beyond gross debt to assess fiscal pressures

24. Government gross debt data are not sufficient for assessing the long-term sustainability of the public finances. In particular, some explicit future liabilities such as unfunded and underfunded civil servant pension schemes and state guarantees are often not taken into account. Table 5 from Brixi and Schick (2002) classifies the different types of liabilities by the certainty of their realisation (direct or contingent liabilities) and the extent to which they are legally binding (explicit or implicit). Direct liabilities are obligations whose outcome is certain, while contingent liabilities are obligations that may or may not materialise, depending on whether particular events occur. Explicit liabilities are specific obligations created by law or contract, which governments must honour. Implicit liabilities represent moral obligations, which are likely to be assumed by governments due to public expectations or political pressures, even though there is no legal obligation.

Table 5. Government fiscal risk matrix

Sources of obligations	Direct liabilities (Obligation in any event)	Contingent liabilities (Obligation if a particular event occurs)
Explicit Government liability as recognised by a law or contract	• Sovereign debt (loans contracted and securities issued by central government) • Expenditures by budget law • Expenditures legally binding in the long term (civil service salaries and pensions)	• State guarantees for non-sovereign borrowing by, and other obligations of, sub-national governments and public and private sector entities (development banks) • Umbrella state guarantees for various types of loans (mortgage loans, student loans, agriculture loans, small business loans) • Trade and exchange rate guarantees issued by the state • State guarantees on private investments • State insurance schemes (deposit insurance, income from private pension funds, crop insurance, flood insurance, war-risk insurance)
Implicit A moral obligation of government that reflects public and interest group pressures	• Future public pensions (as opposed to civil service pensions) • Social security schemes • Future health care financing • Future recurrent costs of public investment projects	• Default of a sub-national government or public/private entity on non-guaranteed debt/obligations • Banking failure (support beyond government insurance, if any) • Clean-up of liabilities of entities being privatised • Failure of a non-guaranteed pension fund, employment fund, or social security fund (protection of small investors) • Possibly negative net worth and/or default of central bank on its obligations (foreign exchange contracts, currency defence, balance of payments) • Other calls for bailouts (for example, following a reversal in private capital flows) • Environmental recovery, disaster relief, military financing

Source: Brixi, H. P. and A. Schick (2002), Government at Risk: Contingent Liabilities and Fiscal Risk, World Bank.

2.1. Explicit government liabilities

25. Government debt is not always comparable across countries due to the differences in the recognition of explicit liabilities. Following Brixi and Schick (2002), explicit liabilities are debt recognised by a law or contract (Table 5).

Pension liabilities – explicit or implicit?

26. A major discrepancy in terms of explicit liabilities is the treatment of civil servant future pensions. As discussed above, general government debt includes the liabilities related to the underfunding of government-sponsored civil servant retirement schemes for six OECD countries (Australia, Canada, Iceland, New Zealand, Sweden and the United States). The debt position for these countries is thus overstated relative to countries that have large unfunded liabilities for pensions which had generally not been recorded in the core accounts of the SNA. Using a recent survey of pension plan assets and liabilities, OECD (2014) shows the impact of these differences and how they would affect the measure of gross debt which is regularly published in the Economic Outlook (Column 3 in Table 6). Furthermore, countries with funded or partially-funded civil servant pension schemes have accumulated assets, either inside or outside of the government sector (Columns 4 and 5 in Table 6), which may have been funded by governments in the past, increasing budget deficits and government debt, and therefore making comparisons across countries difficult. Finally, some countries have established dedicated funds for social security pensions for the population at large. While the corresponding liabilities are not recorded as government debt, the funding to accumulate assets for these funds may also have increased government debt in the past (Column 7). Adjusting for all of these various pension system effects on government debt (Column 8) results in a very different picture of government liabilities, for example with Canada moving from 110% of GDP to 39% of GDP, and Sweden moving from 49% of GDP to less than 1% of GDP.

27. Better data should become available in the coming years as countries implement the new recommendations of the System of National Accounts (SNA) 2008, and will start to compile a supplementary Table on pension liabilities (SToP).[10] This supplementary Table will show not only all liabilities recorded in the core system, but also the implicit pension liabilities of government related to unfunded government employee pension schemes as well as those related to social security types of pension schemes. Given the large variety of pension and social security systems across countries, this reporting, covering both public and private pension liabilities, will indeed provide a more complete and internationally comparable set of data. It will also allow for a broader understanding of future pressures on government finances, enhancing future analyses.

10. For European Union countries, ESA 2010 will require submission of this comprehensive Table starting in 2017, while non-EU countries do not have a set timetable.

Table 6. Pension systems and their impact on government debt

2012, Percentage of GDP

	Total liabilities (1)	Unfunded pension liabilities (2)	Total liabilities excluding unfunded pension liabilities (3=1-2)	Accumulated funds related to employment related pension schemes, inside GG (4)	Accumulated funds related to employment related pension schemes, outside GG (5)	Total liabilities, after full adjustment for employment related funds (6=3-4-5)	Accumulated funds related to social security pension schemes, inside GG (7)	Total liabilities, after full adjustment for employment related and social security funds (8=6-7)
Australia[1]	57.9	25.8	32.1	5.4	..	..	0.0	..
Austria	86.0	0.0	86.0	0.0	0.0	86.0	0.0	86.0
Belgium	106.4	0.0	106.4	0.0	0.0	106.4	0.0	106.4
Canada	109.7	13.6	96.1	0.0	44.4	51.7	12.8	38.9
Chile	18.6	0.0	18.6	..	..	..	2.2	..
Czech Republic	55.7	0.0	55.7	0.0	0.0	55.7	0.0	55.7
Denmark	59.3	0.0	59.3	0.0	0.0	59.3	0.0	59.3
Estonia	13.3	0.0	13.3	0.0	0.0	13.3	0.0	13.3
Finland	64.0	0.0	64.0	0.0	0.0	64.0	0.0	64.0
France	109.3	0.0	109.3	0.0	0.0	109.3	1.8	107.5
Germany	88.5	0.0	88.5	0.3	0.0	88.2	0.0	88.2
Greece	167.5	0.0	167.5	0.0	0.0	167.5	0.0	167.5
Hungary	90.0	0.0	90.0	0.0	..	..	0.0	..
Iceland	129.5	25.8	103.7	0.0	31.9	71.8	0.0	71.8
Ireland	127.8	0.0	127.8	0.0	0.0	127.8	0.0	127.8
Israel	68.2	0.0	68.2	0.0	..	..	0.0	..
Italy	142.2	0.0	142.2	0.0	0.0	142.2	0.0	142.2
Japan	216.5	0.0	216.5	9.8	..	..	2.2	..
Korea	34.8	0.0	34.8	0.0	..	..	0.0	..
Luxembourg	30.2	..	30.2	..	..	..	..	..
Mexico	..	0.0	..	0.0	0.0	..	0.0	..
Netherlands	82.7	0.0	82.7	0.0	47.8	34.9	0.0	34.9
New Zealand	47.6	5.2	42.4	0.0	1.4	41.0	0.0	41.0
Norway	34.7	0.0	34.7	0.0	13.5	21.2	0.0	21.2
Poland	62.3	0.0	62.3	0.0	0.0	62.3	1.0	61.3
Portugal	134.6	0.0	134.6	3.3	0.1	131.2	6.5	124.7
Slovak Republic	56.9	0.0	56.9	0.0	0.0	56.9	0.0	56.9
Slovenia	61.6	0.0	61.6	0.0	0.0	61.6	0.0	61.6
Spain	92.6	0.0	92.6	0.0	0.0	92.6	6.1	86.5
Sweden	49.0	2.3	46.7	0.0	18.9	27.8	27.0	0.8
Switzerland[2]	46.3	0.0	46.3	0.0	31.1	15.2	5.4	9.9
Turkey	..	0.0	..	0.0	0.0	..	0.0	..
United Kingdom	101.6	0.0	101.6	0.0	13.7	87.9	0.0	87.9
United States	122.2	20.1	102.1	0.0	30.0	72.1	0.0	72.1

1. Based on Government Finance Statistics. Data not fully consistent with SNA but the difference in total liabilities excluding unfunded pension liabilities is less than 1% of GDP.
2. 2011 data for Switzerland.

Source: OECD (2014), "Growth Prospects and Fiscal Requirements Over the Long Term", in *OECD Economic Outlook*, Vol. 2014 Issue 1, OECD Publishing.

Explicit government contingent liabilities

28. In order to have a complete understanding of future government obligations, explicit contingent liabilities should be taken into account. Notably, state guarantees and state-sponsored insurance schemes may represent an important hidden subsidy and a potential drag on future government finances. Their inclusion in a broader government liability measure would be desirable to better understand future fiscal pressures.

29. Government guarantee arrangements for financial claims address a number of policy objectives, which include macro-prudential goals, such as supporting financial stability, as well as other objectives, such as protecting consumers and influencing credit allocation (Schich and Kim, 2011). The recent financial crisis has highlighted the use of guarantees to buttress the financial sector, but guarantee arrangements have been used for years in areas such as export, housing and small business credits as well as student loans. These guarantees could amount to sizable numbers and the risks they pose for public finances and government debt should be assessed and reported. Table 7 illustrates how loan guarantee programmes are reported for the United States, showing both the principal amount guaranteed and an accounting estimate of the resulting liabilities, based on the present value of expected net cash outflows due to the loan guarantees.

Table 7. Loans guaranteed by the United States[1]

Per cent of GDP

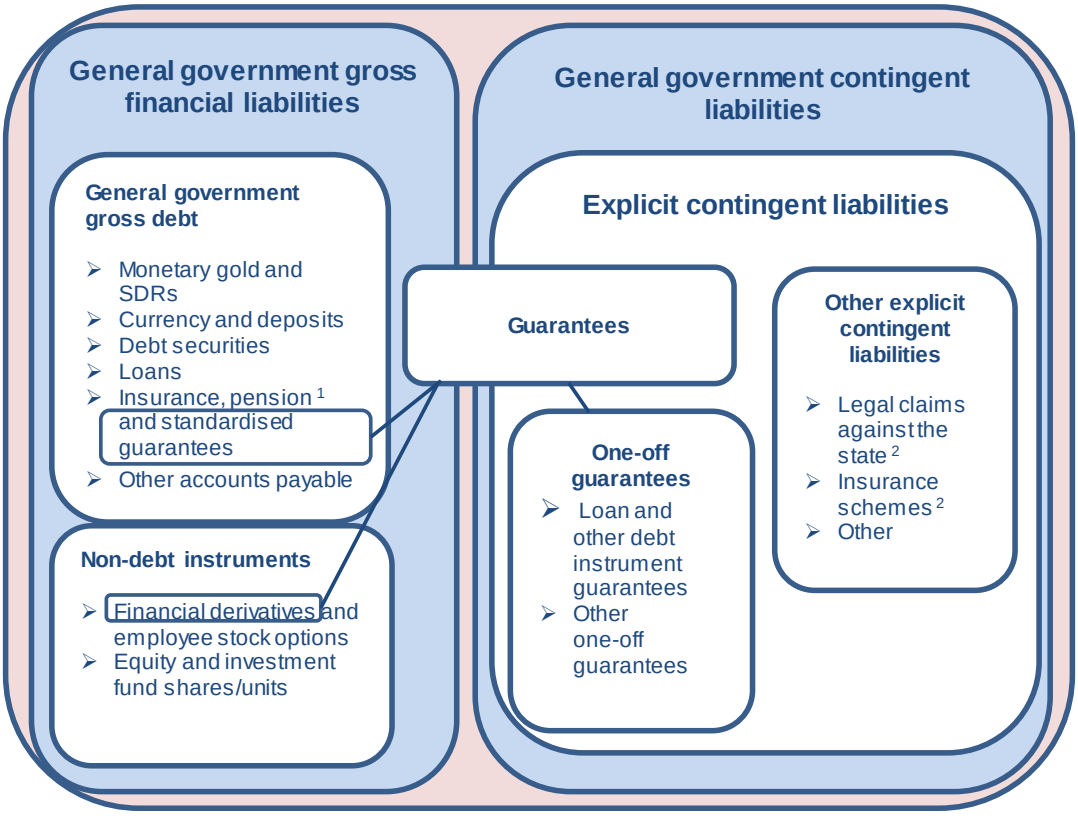
	Principal amount guaranteed	Loan guarantee liabilities[2]	Principal amount guaranteed	Loan guarantee liabilities[2]	Principal amount guaranteed	Loan guarantee liabilities[2]	Principal amount guaranteed	Loan guarantee liabilities[2]
	2008		2010		2012		2013	
Federal Housing Administration Loans	3.6	0.13	6.5	0.23	7.2	0.34	7.1	0.25
Federal Family Education Loans	2.8	0.29	2.6	0.10	1.8	0.01	1.5	-
Small Business Loans	0.4	0.01	0.4	0.03	0.5	0.02	0.5	0.02
Export-Import Bank Guarantees	0.4	0.01	0.4	0.01	0.5	0.01	0.5	0.01
Veterans Housing Benefit Program	0.4	0.02	0.4	0.03	0.5	0.03	0.5	0.05
Rural Housing Services	0.1	0.01	0.3	0.01	0.4	0.02	0.5	0.02
Other guaranteed loan programs	0.3	0.02	0.3	0.02	0.3	0.03	0.3	0.01
Total loan guarantees	8.0	0.50	10.9	0.44	11.2	0.46	10.9	0.35

1. Data refer to fiscal years ending September 30th.
2. The liability for loan guarantees is the present value of expected net cash outflows due to the loan guarantees.
Source: United States Government Notes to the Financial Statements (various years).

30. According to SNA 2008, provisions for standardised guarantees should be recorded as liabilities if the government recognizes the probability of having to finance some of the calls.[11] Along with the inclusion of civil servant pension liabilities, better reporting on guarantees within the National Accounts will improve debt indicators. Figure 9 illustrates the relationship between government contingent liabilities and government gross financial liabilities under this framework.

11. System of National Accounts 2008, Paragraph 17.222-223. http://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf.

Figure 9. Accounting for contingent liabilities



1. Includes explicit unfunded or underfunded civil servant pension liabilities.
2. Refers only to the context of explicit contingent liabilities. In the case of legal claims against the state, this could be claims relating to privatization, liquidation of agencies, or personnel management. In the case of insurance schemes, this could refer to flood or crop insurance, for example (Cebotari, A.(2008), "Contingent Liabilities: Issues and Practice", *IMF Working Paper*, No. 08/245.).

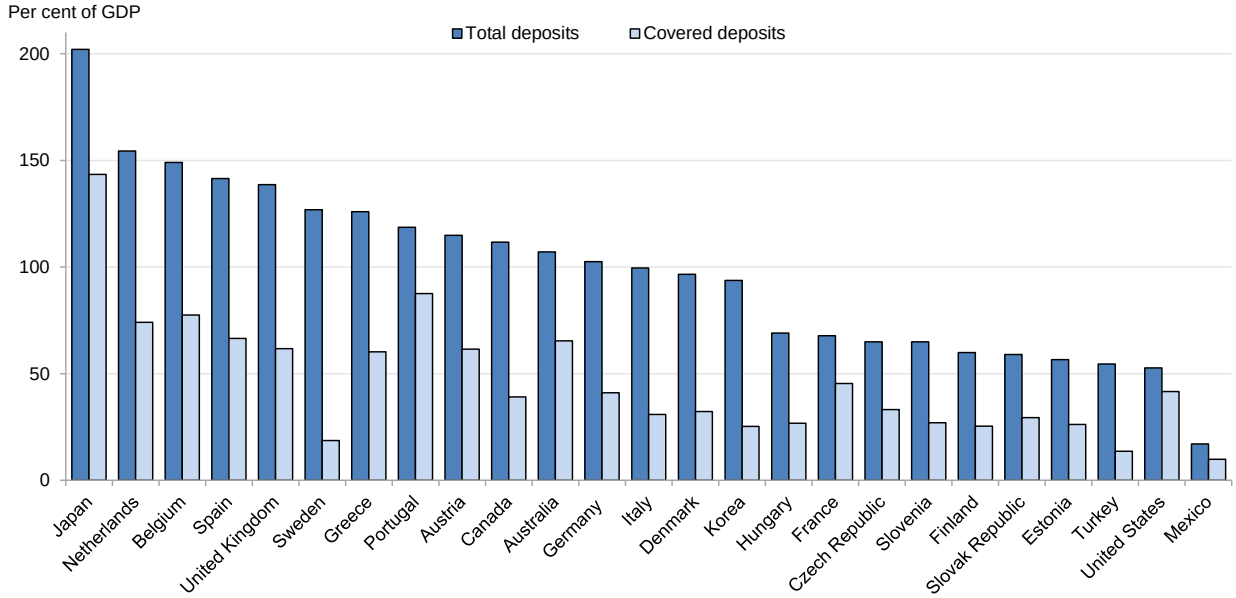
31. Contingent guarantees can also include government insurance schemes which cover uninsurable risks of infrequent but potentially huge losses. Deposit insurance schemes are the most prevalent of these. Figure 10 illustrates the magnitude of these contingent liabilities for several OECD countries.

32. Finally, public-private partnerships (PPPs) may result in understated government liabilities, as government guarantees of these endeavours are not always included in the general government financial balance sheet. Public-private partnerships are long-term contractual agreements between the government and a private partner whereby the latter typically finances and delivers public services using a capital asset (e.g. transport or energy infrastructure, hospital or school buildings). The private party may be tasked with the design, construction, financing, operation, management and delivery of the service for a pre-determined period of time, receiving its compensation from fixed unitary payments or tolls charged to users (OECD, 2013).

33. PPPs are sometimes preferred by governments because they may be more efficient than traditional public finance. Additionally, they may permit governments to undertake new investments without any immediate increase in reported government spending or debt, at least in the short run. Indeed, there have been incentives in some countries to use PPPs in order to finance assets off the public balance sheets. When designed with such a purpose, PPP projects can result in a lack of transparency regarding future liabilities and fiscal risks.

Figure 10. Total and covered deposits of government deposit insurance schemes

2010



Note: Covered deposits refer to eligible deposits for Belgium, Germany, Portugal, and the United Kingdom. Eligible deposits refer to deposits repayable by the deposit insurance scheme, before the level of coverage is applied. Covered deposits are obtained by multiplying eligible deposits by the percentage of coverage.

Source: Demirgüç-Kunt, Asli, Edward Kane and Luc Laeven, (2013), "Deposit Insurance Database", *Policy Research Working Paper*, No. 6934, Washington, DC: World Bank; Austrian Finance Ministry; OECD Economic Outlook 95 database, June 2014.

34. Indeed, while PPPs defer government outlays, the government still may bear some cost of the project at the end or provide a guarantee implying potentially high future liabilities.[12] The way PPPs are accounted for and reported has an impact on government liabilities (Funke et al., 2013). In some cases, governments under pressure to reduce deficits in the short run may turn to PPP arrangements even if, in the long run, the PPP costs more than direct public financing. This bias in favour of PPPs can also lead governments to take on financial commitments that affect the future sustainability of the public finances, while keeping these investments off-budget, resulting in a lack of transparency about future liabilities. In order to better account for responsibility and improve transparency, the European Union Manual on Government Debt and Deficit has codified how to record PPPs. If the risks and rewards are predominantly with government, the relevant PPPs are to be consolidated with government. Only if the risks and rewards are outside government, the unit can be recorded as a corporation, outside the government accounts.

35. In the European Union, the total volume of PPP deals over the period 1990-2012 was EUR 308 billion (Kappeler, 2012; EPEC 2013, 2014). While small in per cent of EU-wide GDP, close to half of this amount was contracted in the United Kingdom, followed by Spain and France. For the United Kingdom, the total future obligations related to PPPs (private finance initiatives in the British accounts) stood at GBP 156.6 billion at 31 March 2013, up from GBP 149.4 billion a year earlier (HM Treasury, 2014).

12. Government obligations related to PPPs, depending on how they are defined, can be recorded either as direct or contingent liabilities.

36. History proves that government guarantees do get called and, along with their significant subsidy values, can have a serious impact on government finances (Mody and Patro, 1996). Better data would allow for better estimates of future performance based on past experience and would also permit the use of sophisticated contingent claim valuation methods for pricing the guarantees. Mandatory reporting, using international accounting norms for estimating the expected liability from government guarantees, would be an important addition to more comprehensive, internationally comparable analysis of financial sustainability and the future risks and vulnerabilities of government.

2.2. Implicit government liabilities

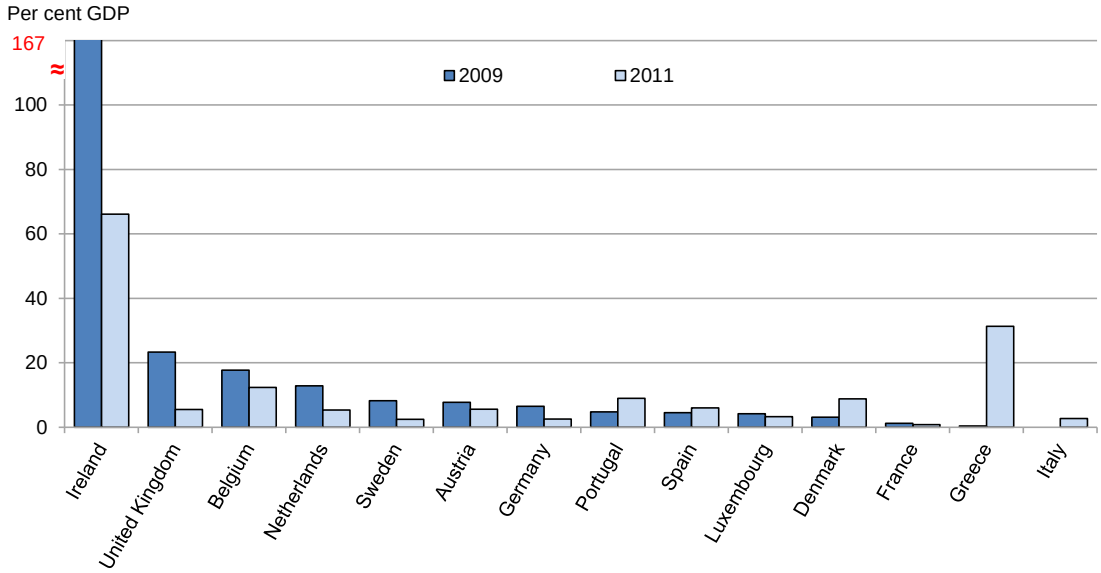
37. Implicit government liabilities refer to potential obligations which have no legal basis but are rather driven by expectations created by past practice or pressure from interest groups and public opinion. Implicit liabilities can be direct, such as those of social security type pension schemes (as opposed to civil servant pension schemes), other social security schemes, future health care financing and future costs of public investment projects, for which the costs are not known at present.[13] For example, in the case of unfunded pay-as-you-go social security pension schemes, there is no explicit commitment that would guarantee a certain level of income for pensioners in the future. However, contributors expect that their government will provide an adequate level of pensions for participants.

38. Other implicit government liabilities are contingent upon certain events, such as disaster relief or bailouts of a sub-national government entity or a private entity on non-guaranteed debt. The Japanese government relief and reconstruction plan after the 2011 Great East Japan Earthquake, which amounted to 3.5% of GDP, is a recent example of the realisation of an implicit contingent liability. Another example is the bailout of the automobile industry in the United States between 2008 and 2009, when the government lent USD 80 billion to avoid the collapse of the industry and the loss of millions of jobs. This is an example of government acting as a lender of last resort. Implicit government liabilities can therefore include the government's willingness to provide systemic and economic support for important institutions in trouble, or to finance cultural heritage, defence, or costs related to a natural disaster. Unlike the direct implicit liabilities cited above, implicit contingent liabilities are difficult to estimate. Given the highly uncertain nature of these contingent liabilities, they cannot meaningfully be used in any cross-country comparisons. They should nonetheless be remembered, and wherever possible anticipated, such as with disaster relief funds.

39. Examples of implicit government liabilities becoming de facto explicit guarantees abounded during the recent crisis, as government provision of a safety net for financial institutions increased markedly. Existing guarantees have been expanded and new ones introduced, including, in particular, in relation to bank liabilities. Figure 11 illustrates government guarantees related to the crisis, collected by Eurostat via their Supplementary Table for the Financial Crisis. Ireland underwrote vast guarantees during the crisis, including a blanket guarantee under the Credit Institutions Financial Support Scheme. The United Kingdom provided large guarantees in 2009 in support of its financial sector, buttressing financial giants such as Lloyds TSB and Royal Bank of Scotland. Belgium also underwrote important guarantees in 2009, including EUR 91 billion earmarked for its stake in Dexia (OECD, 2009). Greece increased its government guarantees over the crisis period to peak at 31% of GDP in 2011.

13. Significant work has nonetheless been undertaken to estimate future pension and health care spending, and to provide a range for their size. See for example de la Maisonneuve, C. and J. Oliveira Martins (2013).

Figure 11. Government guarantees to financial institutions in the European Union



Note: Data refer only to government operations relating to the support for financial institutions and linked to the financial crisis. Support measures for non-financial institutions or general economic support measures are not included.

Source: Eurostat.

3. Government assets, net debt and net worth

40. Governments have different types of assets which should be taken into account, in particular from a solvency perspective. Two sets of assets – financial assets and non-financial assets – can be distinguished. They have different characteristics in terms of valuation and liquidity. Financial asset data are readily available for most countries, while non-financial asset data need to be better developed. Both provide information which can be useful in the analysis of government finances and fiscal sustainability.

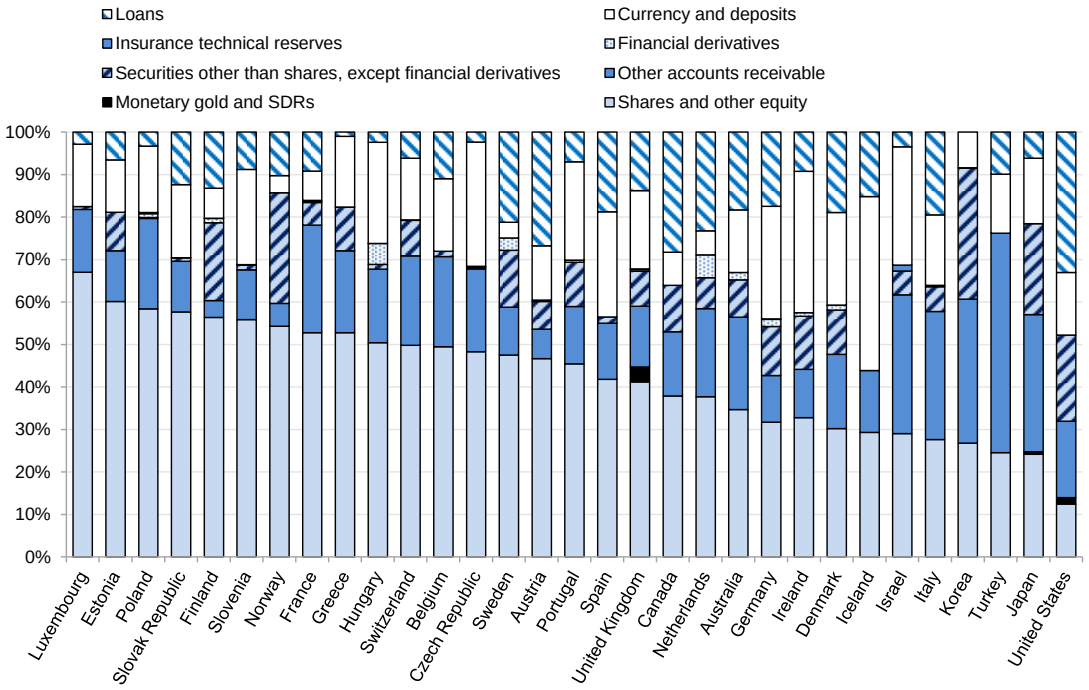
3.1. Financial assets and net debt

41. Government financial assets comprise currency and deposits, loans granted by government, securities other than shares, shares and other equities, insurance technical reserves, and other accounts receivable measured in market value (Figure 12). Taking into accounting government financial assets allows for the calculation of government net debt.

42. As with gross debt, net debt can be measured in a strict sense, excluding non-debt items from both sides of the balance sheet, or in a broader way, taking the difference between total financial liabilities and total financial assets. Following the SNA 2008 framework, Figure 13 highlights the relationship between gross and net debt, and between gross and net financial liabilities as reported in the government financial balance sheet.

Figure 12. Breakdown of general government financial assets

2012



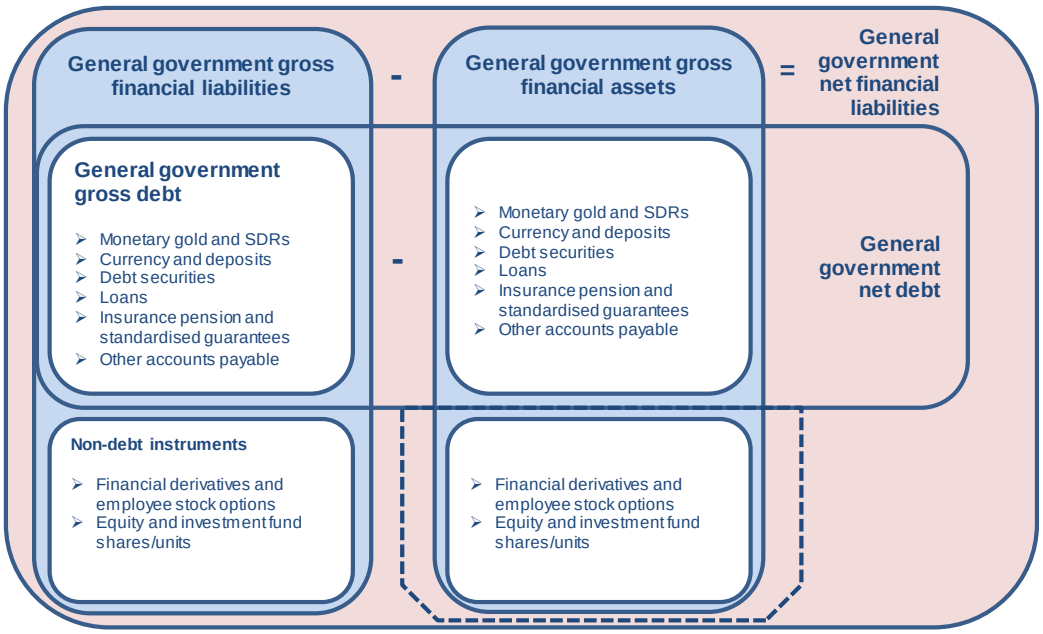
Note: Data for Switzerland refer to 2011. Data refer to consolidated general government sector, except for Japan and Korea where data are non-consolidated.

Source: OECD National Accounts Statistics (database), Financial Balance Sheet – consolidated and Financial Balance Sheet – non-consolidated, accessed 5 January 2015.

43. For some countries, government financial assets are as important as or even larger than government liabilities (Norway, Finland, Luxembourg, Korea, Estonia and Sweden in Figure 14). These financial assets should be taken into account when analysing financial sustainability, but the liquidity of the different assets needs to be assessed as well as their availability for debt reduction. It should be noted that some increases in government liabilities are accompanied by a simultaneous increases in government assets, as has been the case during the recent crisis in many European countries.[14] Information concerning the quality of such acquired assets would help in understanding their potential value in offsetting government debt.

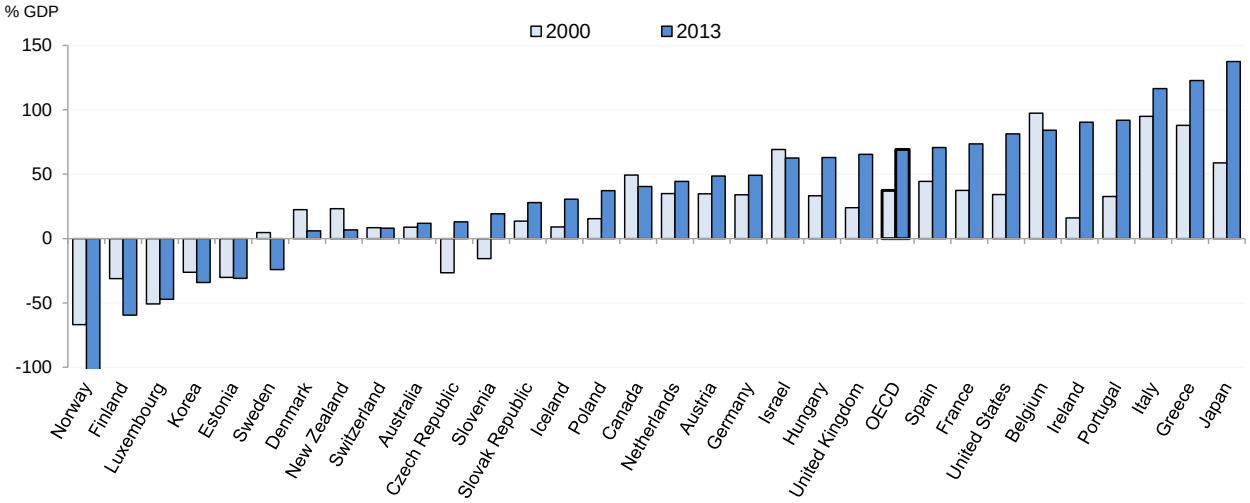
14. The relevant assets have been valued at market or market-equivalent prices. However, arriving at such a valuation may be particularly difficult in situations of financial distress.

Figure 13. The Standardised National Accounts framework for general government debt



Note: The dotted line highlights an alternative definition of general government net debt, used by the OECD, which takes into account all financial assets, and not only those related to debt instruments, as all financial assets may be used to redeem debt.

Figure 14. General government net financial liabilities as a percentage of GDP

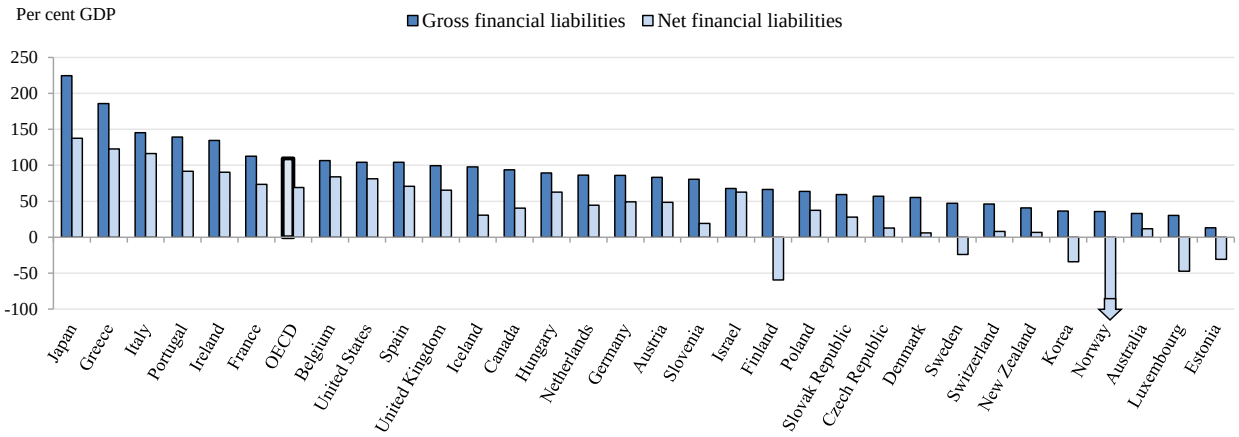


Note: 2000 data for Slovenia refer to 2001. OECD excludes Chile, Estonia, Mexico and Turkey. Norway's net debt was -205% of GDP in 2013.

Source: OECD Economic Outlook 95 database, June 2014.

44. Taking into account financial assets, the debt level of Japan looks quite different, going from 225% of GDP in gross terms to 138% of GDP in net terms in 2013 (Figure 15). Indeed, Japan had financial assets of 87% of GDP in 2013, the third highest in the OECD after Norway (241% of GDP) and Finland (126%). In particular, the Japanese government holds substantial foreign exchange reserves, through which the government purchases financial assets such as bonds issued by other countries, which could be liquidated to redeem debt.

Figure 15. General government gross and net financial liabilities
2013



Note: OECD excludes Chile, Estonia, Mexico and Turkey. Norway's net debt was -205% of GDP in 2013.
Source: OECD Economic Outlook 95 database, June 2014.

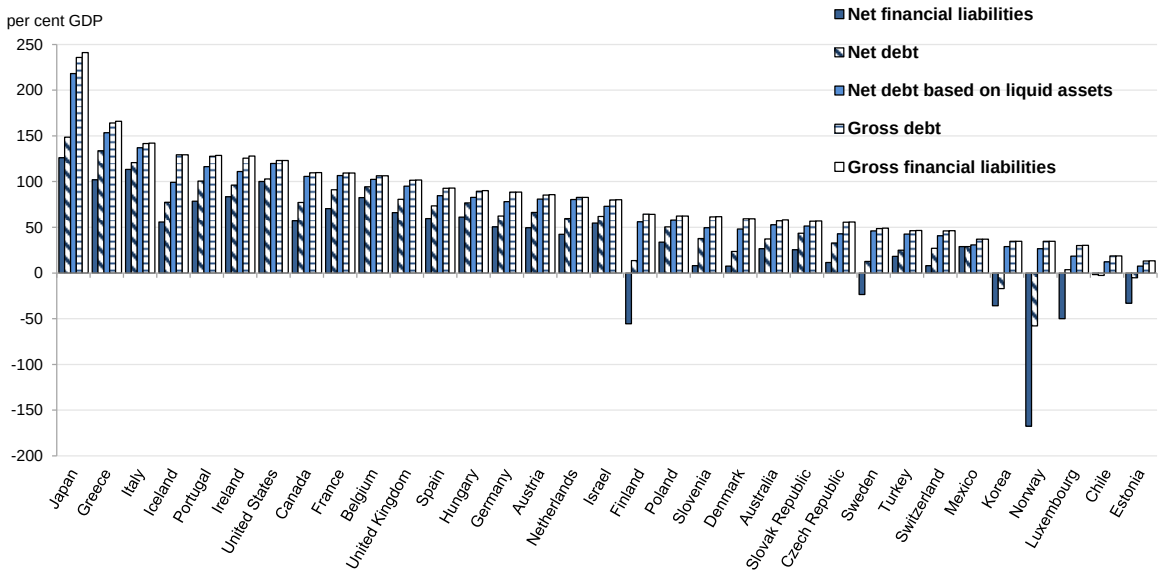
45. Certain other countries with gross debt above the OECD average also look better, with Greece moving from 186% of GDP in gross terms to 123% once financial assets are subtracted. Portugal and Ireland pass below the 100% of GDP mark when looking at net debt, while France moves from 113% of GDP in gross terms to under 75%. The difference between gross and net debt is also striking for several other countries, such as Iceland (98% to 31% of GDP) and Canada (94% to 40%) (Figure 15).

46. As discussed above, financial assets are more or less liquid. For some analysis, it may be interesting to look at a net debt indicator which measures financial liabilities less only those assets which could be easily liquidated to meet debt obligations. One such measure, based on the Eurostat definition of liquid assets, includes only the most liquid instruments (currency and deposits)[15]. Figure 16 shows this indicator along with other, more common debt measures, based on SNA financial balance sheet data. Net financial liabilities (the inverse of financial net worth) comprise total financial liabilities less total financial assets. Net debt is calculated by excluding non-debt instruments, namely financial derivatives, shares and other equities, on both the liability and asset side. The gross debt measure is based on the SNA definition of total liabilities less financial derivatives, shares and other equities, and finally gross financial liabilities show all financial liabilities (including the few non-debt instruments excluded in the gross debt measure).

15 Other such indicators might include securities, which may be regarded as liquid assets, dependent upon the liquidity of the markets they are traded on.

Figure 16. Gross and net debt concepts

2012



Note: Data for Chile, Japan and Korea are non-consolidated. Data for Mexico refer to 2009 and data for Switzerland to 2011. Data for Iceland may include financial derivatives which were not reported in the National Accounts as such. Data include unfunded pension liabilities for Australia, Canada, Iceland, New Zealand, Sweden and the United States.

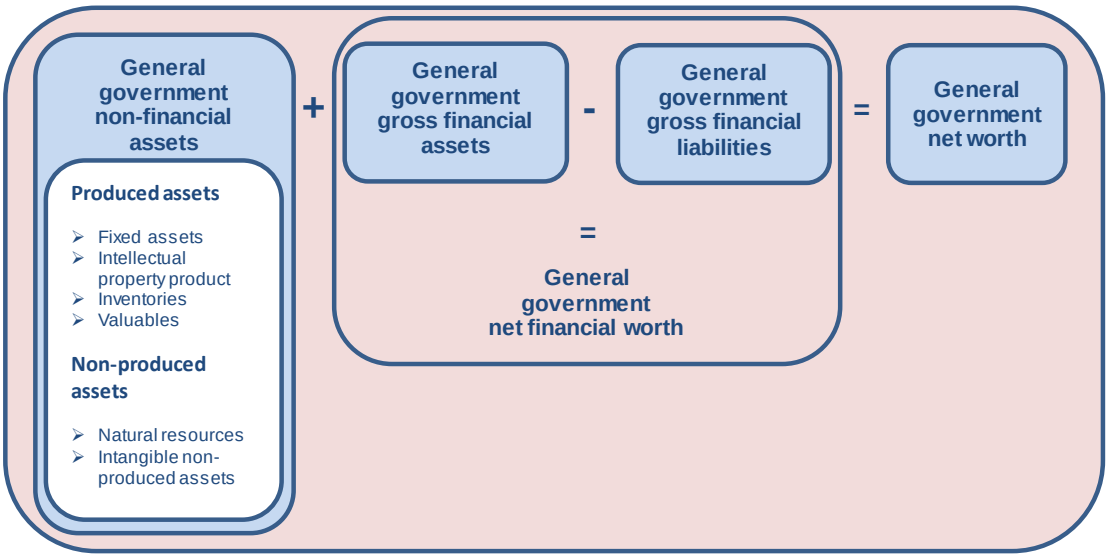
Source: OECD (2014), "Detailed National Accounts: Financial balance sheet, consolidated and Financial balance sheet, non-consolidated", OECD National Accounts Statistics (database), accessed 17 October 2014; OECD Economic Outlook 95 database, June 2014.

47. The difference between net financial liabilities and net debt is small for most countries, so that choosing among them as debt indicator does not make much of a difference. It is significant, however, for some countries (Japan, Norway, Finland, Luxembourg, Korea and Sweden). These countries have either accumulated a strong asset position, among which shares and other equity, to cover future pension payments or have a sovereign debt fund. These assets may thus already be earmarked for specific needs, and may, in principle, not be available in the case of a crisis. The difference is also wide for Greece, Iceland, Portugal, France, Slovenia, and Estonia. These countries also have a large amount of assets in shares, other equity and financial derivatives, some of them being related to bank bailouts. The third net measure, gross debt less liquid assets, is close to gross debt, as highly liquid assets represent a small part of government financial assets in most countries.

3.2. Non-financial assets and net worth

48. The net worth concept provides another indicator that could be helpful in assessing the long-term sustainability of fiscal positions and intergenerational equity. Net worth is measured as the difference between gross financial liabilities and the sum of financial and non-financial assets (Figure 17). Unfortunately, a complete set of data on government's non-financial assets is currently not available for many countries.

Figure 17. Calculating general government net worth



49. Non-financial assets are composed of produced assets and non-produced assets such as land, minerals and energy resources. Seventeen OECD countries report data on total produced assets or fixed assets (Ynesta et al., 2013), while only six OECD countries provide data regarding non-produced assets, allowing for the calculation of total non-financial assets. Non-produced assets include natural resources (for example land and sub-soil assets) and intangible non-produced assets (such as patented entities or purchased goodwill), which can be important sources of wealth and revenues for governments. Table 8 summarizes the main headings of non-financial assets for 2012 where available.

Table 8. Non-financial assets for seventeen countries

Per cent of GDP, 2012

	Non-financial assets	Produced/fixed assets	Non-produced assets
Australia	122.8	39.8	83.0
Austria		37.3	
Belgium		37.3	
Canada	43.1	34.3	8.9
Czech Republic	155.0	135.5	19.5
Finland		49.6	
France	86.3	54.3	31.5
Germany		43.3	
Hungary		113.9	
Japan	121.3	96.1	25.2
Korea	126.5	57.1	69.4
Luxembourg		59.6	
Mexico		32.0	
Netherlands		65.3	
Slovenia		52.8	
United Kingdom		50.0	
United States		77.0	

Note: Data refer to 2012, except for Hungary, Korea and Slovenia, where data refer to 2011. Data for Australia are reported on a fiscal year basis, beginning the July 1st of the year shown. Fixed assets are shown where total produced assets are not available, notably for Austria, Belgium, Finland, Germany, Luxembourg, the Netherlands, Slovenia and the United States. Non-produced assets include natural resources and intangible non-produced assets, but are often incomplete (for example, data for mineral and energy reserves are not reported for Canada).

Source: OECD (2014), "Detailed National Accounts: Balance Sheet for Non-financial Assets", OECD National Accounts Statistics (database), accessed 4 September 2014.

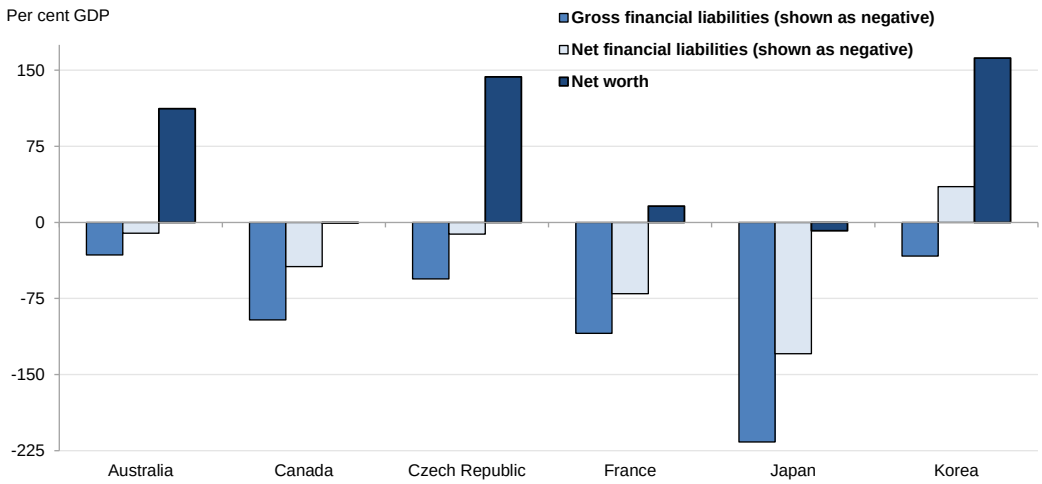
50. The development of a net worth indicator would be a welcome addition to the panoply of debt measures reviewed so far. However, several challenges need to be addressed to assure that data collected are complete and comparable. First and foremost, the full breakdown of non-financial assets should be reported for all OECD countries. Furthermore, measurement methodologies need to be further developed, agreed upon and respected.

51. Specifically with regard to valuation issues, there are outstanding concerns. Agreement is needed to determine how to value non-produced assets, such as land and sub-soil assets. In this respect, it can be noted that several work streams are being pursued by national accounts experts to arrive at an improved measurement of land, and energy and mineral resources. Furthermore, a standardised procedure to assess the marketability of an asset would be helpful, determining if a viable market exists to sell or draw revenues from the asset, as well as if it is politically feasible to do so.

52. A net worth indicator, comprising total assets less financial liabilities, can be constructed for six countries reporting total non-financial assets. Figure 18 compares this net worth indicator to gross financial liabilities and net financial liabilities (both shown as a negative). It shows that some countries (Canada, France and Japan) have created little or no net worth, as their non-financial assets match net financial liabilities. However, countries such as Australia, the Czech Republic and Korea show a strong net worth position thanks to a relatively low gross debt.

Figure 18. Net worth indicator

2012



Note: Unfunded pension schemes are excluded for Australia and Canada. Gross financial liabilities for Korea are nonconsolidated. Data for Korea refer to 2011.

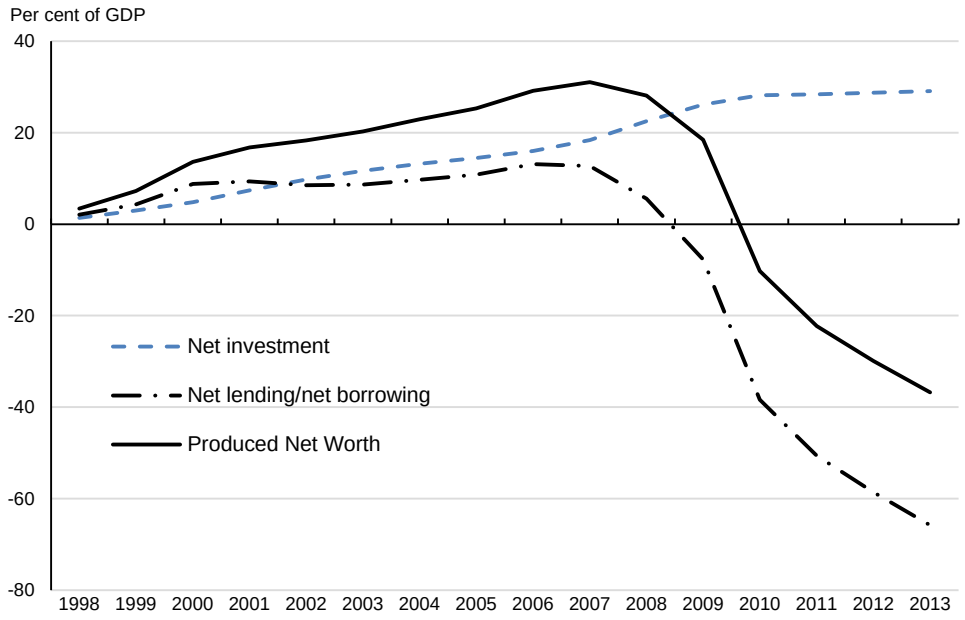
Source: OECD Economic Outlook 95 database, June 2014; OECD (2014) Annual National Accounts: Balance sheets for non-financial assets, accessed 2 October 2014.

An indicator of produced net worth

53. While few countries report the data needed to calculate net worth, a narrower indicator of the change in "produced net worth" can be estimated for most countries. The change in produced net worth is equal to government net saving plus net capital transfers received, which is a measure of the financial capacity of governments to finance their investments (Ynesta et al., 2013). If government net saving plus net capital transfers is not sufficient to finance government net investment, the financing needs to come from rising indebtedness. The change in produced net worth over time can be compared with cumulated past net public investment, which is a measure of the change in the government capital stock.

54. Figure 19 shows developments of produced net worth, net lending/borrowing and net investment as a percentage of GDP for Ireland from 1998 up to 2013. Prior to the crisis, produced net worth and net lending/borrowing ratios show a period of accumulation. Since the financial crisis, both indicators nose-dived, entering into negative territory, reflecting the sharp decline in financial net worth. Still, the net investment-to-GDP ratio continued to rise somewhat after 2008.

Figure 19. Developments of produced net worth in Ireland

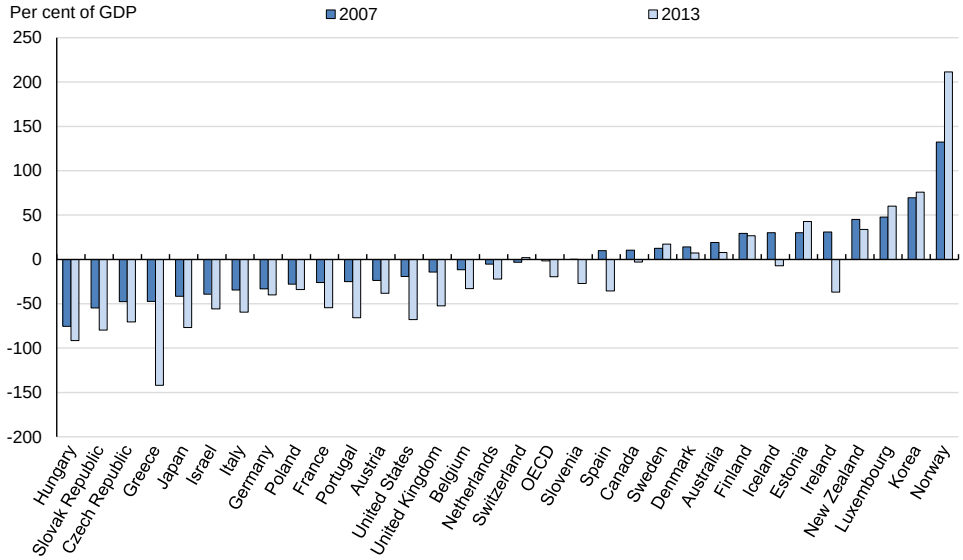


Note: Data are cumulative.
Source: OECD Economic Outlook 95 database.

55. Similar developments occurred in Slovenia, Spain, Canada and Iceland (Figure 20). For example, Spain and Canada showed positive produced net worth in 2007, but negative in 2013. Four countries showed an accumulated decline in produced net worth between 2007 and 2013, but maintained positive values in the post-crisis period (Denmark, Australia, Finland and New Zealand). Looking at Greece and the United States, the difference before and after the crisis is very large. By contrast, Sweden, Estonia, Luxembourg, Korea and Norway continued to accumulate net worth after the economic and financial shock in 2007. Finally, Switzerland is the only country which moves from negative into positive territory, though the change is small.

56. Figure 21 illustrates the development of produced net worth over the past twenty years. Countries with positive net lending over this period (Norway, Korea, Luxembourg, Estonia and New Zealand) have positive produced net worth, while countries with the highest net borrowing have negative produced net worth of more than 50% of GDP. Negative produced net worth means that borrowing was higher than net public investment. Thanks to a high level of investment, for Ireland, Spain, Poland and Slovenia, negative produced net worth is lower than that of Italy, France or the United Kingdom while their borrowing is comparable.

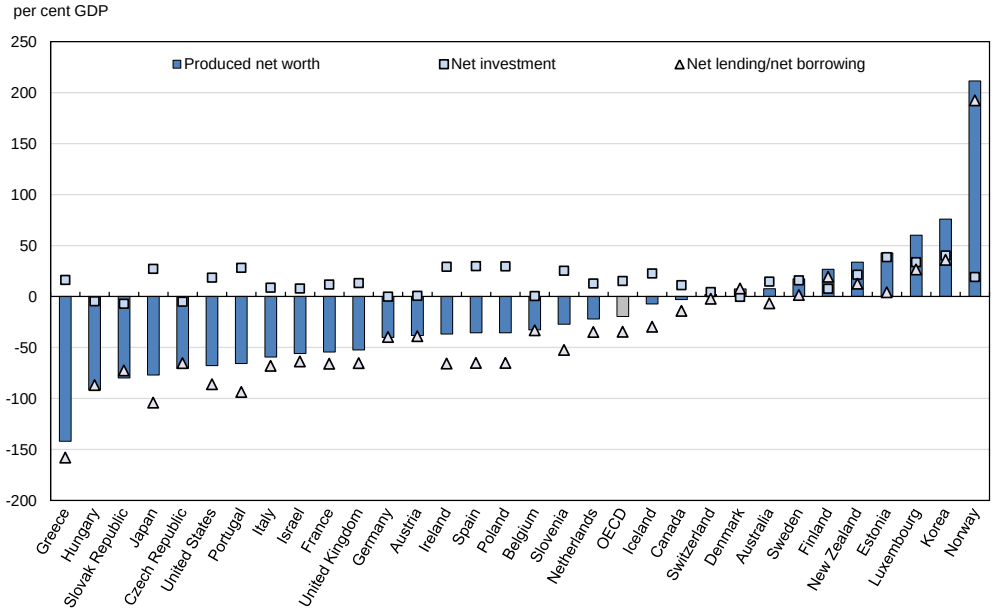
Figure 20. Produced net worth in 2007 and 2013



Note: Produced net worth is the sum of year by year values in % of GDP. The starting year is 1995, but for Iceland and Ireland it is 1998, for Slovenia 2001 and for Switzerland 1999. The end points are 2007and 2013 for all countries except for Austria, Iceland, Japan, Korea, Luxembourg and Poland it is 2012, and for Switzerland 2011.

Source: OECD Economic Outlook 95 database.

Figure 21. Change in cumulated government net worth, investment and indebtedness



Note: Net worth, net investment and net lending (borrowing) are sums of their year by year values in % of GDP. The starting year is 1995, but for Iceland and Ireland it is 1998, for Slovenia 2001 and for Switzerland 1999. The end point is 2013 for all countries except for Austria, Iceland, Japan, Korea, Luxembourg and Poland it is 2012, and for Switzerland 2011. Net worth is calculated as cumulated net savings plus cumulated net capital transfers.

Source: OECD Economic Outlook 95 database.

4. For debt indicators, more is better

57. There is no single "best" indicator for analysing general government debt. While gross debt is the headline measure which is most frequently used, this concept provides only a partial view on government finances and sustainability, and should be considered along with other indicators to assess the current state of the public finances and their future development. Measures from the broadest view of debt – gross financial liabilities – to the most comprehensive accounting of asset and liability positions – net worth – are all helpful metrics. So, too, are narrower data on specific issues, such as future pension liabilities, government guarantees and debt composition. However, as detailed above, better data, more complete metadata, and broader data collection are needed to allow for an arsenal of comparable debt concepts to better anticipate future fiscal pressures.

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