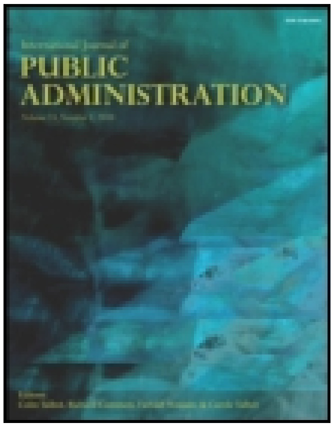

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The Impact of Accrual-Based Public Accounting Harmonization on EU Macroeconomic Surveillance and Governments' Policy Decision-Making

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This article sheds more light on the possible advantages (and the critical aspects) of introducing accruals accounting for governments in the context of European macroeconomic surveillance. This would add more balance to the discussion about accrual accounting, which tends to focus on the resource costs involved. The research it describes would, inter alia, show the impact on sensitive policy areas using a statistical analysis from EU countries' official Government Finance Statistics. It also draws some conclusions on a suggested roadmap for public accounting in the European context.

Keywords: accruals, macroeconomic surveillance, government's decision-making, IPSAS/EPSAS, GFS

PURPOSE OF THE ARTICLE

This article discusses the contribution of accrual-based government accounting to EU macroeconomic surveillance and excessive deficit procedure (EDP) reporting.[1] The article also addressees the usefulness of accrual accounting from the perspective of national government's decision-making in order to highlight some issues to be considered for the research agenda in this field.

RESEARCH METHOD

The research method relies on a documental analysis, whilst adding a body of fresh knowledge through participative observation and including the author's earlier research work experiences. The research method will also take into consideration the general and specific literature on the issues arising from the examination of accounting changes in the public sector.[2]

RESEARCH METHODOLOGY

A qualitative-interpretive approach has been adopted for this study, emphasizing the importance of the ongoing debate about the need for harmonized accrual-based public accounting standards for EU member states, and the

[1]For the relevant legal text, see: Treaty on the Functioning of the European Union (TFEU), art. 121 and 126 and protocol 12.

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[2]This includes empirical material such as agendas and proceeding of meetings, reports on ongoing projects, and public consultation papers of the organizations which play a relevant role in public-sector standard setting (i.e., IPSASB, Eurostat, CIPFA, CNoCP), other international institutions (i.e., OECD, IMF), and large audit firms with specific expertise in the field of public-sector accounting. The literature review also includes ESA and IPSAS conceptual frameworks, accounting and statistical manuals, recommended practice guidelines, other nonbinding documents, and studies. The author's participative observation is notably related to participation in a series of seminars and conferences (i.e., OECD accrual symposium, Eurostat conference Toward EPSAS, EGPA, CIGAR) in the field of the research. Notably, the author had the opportunity to have been an observer at the IPSASB and a member of several European Commission (Eurostat) task forces of experts delegated from EU member states as part of the European debate on harmonization of public-sector accounting and development of European Public Sector Accounting Standards (EPSAS).

context of strengthened European economic governance to increase accountability and fiscal transparency, and thereby enhance policy decision-making. Complementary interviews with members of the IPSASB, member state delegates of IPSAS and EPSAS task forces, and European Commission (EC) officials were carried out to gather feedback and enrich the author's interpretation and are reflected throughout this article.

INTRODUCTION

The research would shed more light on the possible advantages/benefits and on the critical factors of the current harmonization process of accrual-based public accounting systems in Europe as a tool to enhance:

a. the operation of budgetary and macroeconomic surveillance in Europe, and
b. the usefulness of reporting information for users and stakeholders.

The relevance of some key issues related to policy making, notably for public resource management and national fiscal policies, will also be discussed as input for further research.

The research method will analyze studies in Europe for countries which have shifted from cash to accrual-based public accounting at a least one level of government, alongside studies of pioneer countries in adopting accrual accounting and budgeting, such as Australia and New Zealand.

The term "accrual accounting" is used to refer to International Public Sector Accounting Standards (IPSAS), the envisaged future European Public Sector Accounting Standards (EPSAS) for the European Union, and national accrual-based public accounting standards.[3]

The new public management (NPM) theory and, more recently, the new institutional theory seem to be useful to interpret the current reform process, covering both decision-usefulness and government accountability.

According to a survey commissioned by Eurostat (Ernst & Young, 2012),[4] accrual-based public accounting appears to be adopted or currently under reform at the central government level in 12 countries in Europe: Spain, the UK, Estonia, Lithuania, Poland, Austria, Finland, Sweden, France, Bulgaria, Belgium, and Denmark plus Switzerland. The UK, Finland, Spain, Switzerland, Austria, and Sweden have completed their reforms.

At the local level, the reform process has commenced in the UK, Ireland, Spain, Belgium, the Netherland, Switzerland, Finland, Estonia, Lithuania, Poland, Czech Republic, Austria, and Bulgaria. Finland, France, The Netherlands, the UK, and Switzerland have completed their reforms.

At the level of social security funds, the results show the UK, Spain, Portugal, France, The Netherlands, Poland, Lithuania, Estonia, Sweden, and Finland as having adopted accrual accounting.

According to the EU's EDP notification tables,[5] accrual-based public accounting data are available in the countries shown in Table 1.

Overall, the current situation of public accounting in Europe shows a great diversity of practices, characterized by several hybrid situations such as modified cash and modified accrual (i.e., mixed practices) alongside accrual and cash basis. The evolution of public accounting in several member states also shows a tendency toward adoption of accrual-based regimes, and this trend has been reinforced by the recently strengthened European economic governance framework.[6]

The effect of accrual adoption on macro-surveillance would be analyzed on the basis of the current situation where several measures (related to statistical[7] and accounting reporting/planning) are available to governments when determining public policy (Robinson, 2009; Van de Ven, Ynesta, Kim, & Girodet, 2013; Wynne, 2004). These may be for fiscal sustainability, for planning policy development, for the need of accountability and transparency of public accounts, for good public management of services and resources, etc. Some examples are:

- Government deficit/GDP; gross government debt/GDP (Maastricht criteria)[8];

[3]This article refers to the IPSASs, since the IPSASs are the only internationally recognized accrual-based public accounting standards. Nevertheless, it should be noted that in many cases national public accounting standards (which may take the form of GAAP or another form) may follow many or all of the principles of IPSAS in this area or may only be inspired by IPSAS. In this context, it also considers the future EPSAS.

[4]Under the preparatory stage of the study on "Suitability of IPSAS for EU MS," Eurostat (the statistical office of the European Commission) needed to acquire a detailed knowledge of the underlying public accounting and auditing systems in member states. For additional information, see: "Overview and comparison of public accounting and auditing practices in the 27 EU Member States" Ernst and Young/Eurostat (2012). On the various accounting models, including the so-called "full" accrual, see also Chan, 2007; Christiaens & Reyniers, 2009; IFAC, 2013; Jagalla, Becker, & Weber, 2011.

[5]These tables are reported twice per year to Eurostat by EU member states. They contain annual data, including a reconciliation between national-definition budget balances ("working balances") and statistical deficit data. The tables require that the "official" accounting bases of the working balances are declared.

[6]COM(2013) 114 released by the Commission on March 6, 2013 (EC, 2013b), OECD (2013), Pina Torres, & Yetano (2009).

[7]Government finance statistics and National Accounts. On the relationship between national accounting, government budgeting and government accounting see Jones (2000).

[8]Government deficit (surplus) means the net borrowing (net lending) of the sector of "general government" (S.13), as defined in European System of Accounts (ESA) 2010. For more information see: Council Regulation (EC) No 479/2009 of May 25, 2009 on the application of the Protocol on the

TABLE 1
EU Member States by Basis of Accounting of Working Balance Measure for EDP Reporting and by Government Subsectors—October 2013*

	Central government			*Local government*			*Social security funds*			
	Accrual	*Cash*	*Mixed*	*Accrual*	*Cash*	*Mixed*	*Accrual*	*Cash*	*Mixed*	*M*
Austria		1				1	1			
Belgium			1	1			1			
Bulgaria		1			1			1		
Cyprus			1	1			1			
Czech Republic		1			1		1			
Germany			1			1			1	
Denmark			1			1			1	
Estonia		1				1	1			
Greece		1			1				1	
Spain	1			1			1			
Finland			1			1	1			
France		1		1			1			
Croatia		1				1		1		
Hungary		1			1			1		
Ireland		1		1						1
Italy		1			1			1		
Lithuania		1			1		1			
Luxembourg			1			1	1			
Latvia		1			1			1		
Malta		1		1						1
The Netherlands		1		1			1			
Poland		1			1		1			
Portugal		1			1			1		
Romania		1			1			1		
Sweden		1		1					1	
Slovenia		1			1			1		
Slovakia		1			1			1		
UK	1			1						1
Total number of member states by basis of accounting	2	20	6	9	12	7	12	9	4	3
% number of countries on EU 28	7	71	21	32	43	25	43	32	14	11

M: data not available; Source: Elaboration on Eurostat GFS database—EDP notification tables (October 2013). Data publicly available from http://ec.europa.eu/eurostat/data/database/information

The description of the basis of accounting is provided by the Member State as a result of EDP reporting. Notably, it refers to the starting point in EDP Tables 2 (A, B, C, D) the "working balance," the measure most commonly used in a country's public accounts or budget presentation. This information is required by Council Regulation (EC) 479/2009. As reported in the table, the working balance in countries can be cash-based, or on an accrual basis, or on mixed basis. Often a different definition of "government" is used among countries.

*Mixed basis of accounting is intended to describe an accounting basis between pure cash and full accrual accounting which in practice may vary between different types of "modified accrual" and "modified cash."

- Net government debt (many EU member states at national level, other international measures, e.g., International Monetary Fund (IMF), Organization for Economic Co-operation and Development (OECD), measured at nominal values and reflecting the value of financial liabilities less liquid financial assets);
- Debt/government revenue ("Basel measure");
- Debt/export earnings (debt-to-exports ratio, IMF, World Bank);
- Program measures (those EU member states under a program such as Greece and Cyprus);
- Internal stability growth pact (e.g., Italy).

The usefulness of these analytical measures at the public management level, at the national fiscal policy level, and at the supranational level depends upon the accuracy, completeness, reliability, and significance of their components (Australian Accounting Standards Board [AASB], 2005; EC, 2012b, 2013b, 2013c; International Federation of Accountants [IFAC], 2012a).[9]

excessive deficit procedure annexed to the Treaty establishing the European Community, as amended. The European Union moved to the newest internationally compatible EU accounting framework (ESA 2010) in September 2014.

[9]There have been critical comments from economists and others that there should be a different focus on which of these measures to look at, and

On the other hand, it should be mentioned that although in some countries accrual accounting is used, there is a tendency in some areas to operate off-budget (or balance sheet) transactions, and this should be also taken into account in the assessment of accrual adoption.[10] The benefit of accrual accounting is reduced by incomplete accounts,[11] given the potential for misreporting the real size of deficit-relevant expenditures (Van de Ven et al., 2013; Warren, 2014).

CHARACTERISTICS OF ACCRUAL ACCOUNTING ADOPTION IN A EUROPEAN PERSPECTIVE

Analyzing this pattern, a first logical finding is that many of the countries which lead the process toward public accrual accounting have a long tradition in public accounting based on high-quality accounting standards, although some of them would be better described as "high accruals" (Chan, 2007) and some others as "medium accruals." On the other side, there are countries, such as Spain, which appear to be outliers not only because they belong to a different geographical area[12] but also because the adoption of accruals has been made "with exceptions."

Further work will be needed to find common characteristics and motivations which have led to accrual adoption in these countries.[13] It appears that many of these countries adopted accrual accounting in the wave of NPM reform, which considers the implementation of accrual accounting as a tool to gain wider accountability; to demonstrate that resources are used economically, efficiently, and effectively and as intended (Barton, 2011; IFAC, 2014); to demonstrate value for money (Warren & Barnes, 2003); to assess solvency; and to determine the costs of public services (Chan, 2003; Hood, 1995; Lapsley, 1999; Pina & Torres, 2003; Pina et al., 2009). Thus, the same principles applied by private entities should be applied to public entities.

But there is also a need to improve the information for regulation (control and monitoring) of management's use of resources, including parliamentary approval of the annual budget and annual execution report, and to meet other reporting requirements, such as statistical reporting (Curristine et al., 2007; Montesinos, 2008; Redburn & Joyce, 2008; Robinson, 2009; Scheers, Streck, & Bouckaert, 2005; Wynne, 2004).

Institutional theory has been more recently considered as a useful explanation of the path and characteristics of European accounting reforms (Goldfinch & Wallis, 2010; Oulasvirta, 2014a; Pina et al., 2009), notably as effects on government accounting of complex interactions of the "institutionalization" process (Oulasvirta, 2014a, p. 3), in the several forms of isomorphism (DiMaggio & Powell, 1983) derived from national or supranational institutions, with the key players in the field of accounting[14] (Oulasvirta, 2014a; Pina et al., 2009).

As an example, one may examine the case of those EU member states which—under the pressure of the rules of EDP reporting—have adopted accrual accounting (or, more commonly, "a bit of" or "mixed" accruals) practices, seeking the enhanced data quality requested by the European statistics code of practice.[15] Other evidence may be also observed from those cases where such (external and internal) pressure, whether through a financial rescue program or other financial reason, has led to work on accrual-based public accounting (e.g., Romania, Portugal, and Greece).

A new insight into such institutional influence may be found from the current harmonization process of accrual-based public accounting systems in Europe, alongside the report of the EC on the "Assessment of suitability of IPSAS for EU Member States,"[16] which focused on the need for reforming public financial management, with the aim to "improve the comparability of the reporting of the economic, financial position and performance in the EU MS, improve the efficiency, effectiveness and accountability of public-sector management, in particular where accruals accounting is not yet in place" (EC, 2014a).[17] In this context, the future development of EPSAS may also appear as tool aimed to strengthen European economic governance and to the benefit of macroeconomic surveillance, although not only limited to that.[18]

more consideration of the use of headline indicators against more flexible policy making according to the economic cycle and the level of transparency and accountability at both National and European level (Ball & Pflugrath, 2012; IMF, 2012a; Mintz & Smart, 2006). For example, should the measure of government debt change from gross to net (EC, 2014b; IMF, 2012b; Van de Ven et al., 2013). Should public investments be taken into account in the Maastricht-relevant deficit? And moreover, should the measure of deficit and/or debt take account of the cost of maintenance of assets alongside the implementation of accrual accounting?

[10]Examples might include public–private partnerships, securitization operations, and extra-budgetary accounts and funds.

[11]For example, using a combination of cash basis and accrual basis.

[12]On a geographical analysis of broad management styles identified in the literature and influence on accounting reforms in local governments, see Pina and Torres (2003) and Pina et al. (2009).

[13]On this, see for example the Austrian case (Steger, 2010) as well as Barton (2011); Caperchione, Christiaens, and Lapsley (2013); Chan, Jones, and Lüder (1996); Christiaens and Reyniers (2009); and Jones and Lüder (2011).

[14]i.e., users, preparers, public accountants and auditors, and standard setters.

[15]European Statistics Code of Practice (EC, 2011).

[16]EC (2013b).

[17]Eurostat Conference "Towards Implementing EPSAS" held in Brussels on May 2013. On the EU as source of coercive isomorphism, see Oulasvirta (2014a).

[18]See discussion (and interview with the Chair) at Task force EPSAS June 12–13, 2014 (EC, 2014c). Some authors and experts have questioned the limitation to statistical reasoning behind the EPSAS proposal (for instance, see Jones & Caruana, 2014).

AN INSIGHT INTO THE STATE OF PLAY OF THE RESEARCH ON BENEFITS (AND CRITICAL ASPECTS) ASSOCIATED WITH ACCRUAL ACCOUNTING IN SENSITIVE POLICY AREAS

Better monitoring and improved managerial (information) decision-making is expected to be achieved with accrual accounting (and budgeting), but the analysis of its impact is not yet developed, although clearly desirable.

In order to be in line with the ESA, the European System of Accounts,[19] government reporting, both at the macrolevel (the general government sector) and at microlevel (the single public entity), should be based on the principle of accrual accounting.[20] Whilst in Europe, primary data on appropriations of payments to the corresponding budget are often recorded under cash criteria, according to the accrual principle of national accounts, the time of recording of a transaction should be according to the occurrence of the real flow of goods and services, and not when the monetary or financial flow takes place.[21]

The research seeks to identify those cases where major policies impact over many years in cash accounting terms, but accruals accounting focuses on the impact in the present.

The importance of such cases for many countries in Europe have increased over recent years and raise difficult debates, which are still underway (EC, 2013b; IFAC, 2012a). These debates take place under an overarching open question: although the use of accrual accounting and capital charges may be introduced in budgeting, if public management and national governments continue to rely on cash measures to operate day to day, and to assess their fiscal policy measures (Robinson, 2009), does this mean that accrual-based information is ignored? It should nevertheless be noted that there are several ways of assessing the fiscal position, notably considering that the official budget can often be merely a formalistic tool to obtain the consent of Parliament.[22]

This debate and previous studies on cash versus accrual have highlighted that cash measures are more suitable information for government's short-term borrowing needs and for government's policy effects on current financial markets (Mintz & Smart, 2006; Robinson, 2009; Scheers et al., 2005). But accrual measures improve external accountability and oversight control and provide information on the government's annual operating cost, including costs incurred today but only payable in the following years. Accrual measures also shed light on the overall financial position by providing more information on the effects on the future generations of today's policy decisions, transactions, and events. Whilst they do not include information about the timing of payments and receipts, which is also important, a complete picture of all assets and liabilities would provide information to inform any decision to replace or focus financial commitments from one activity to another (AASB, 2005; Ball & Pflugrath, 2012; Christiaens & Reyniers, 2009; GAO, 2006; Rowles, 2004; Tickell, 2010; Tiron Tudor & Mutiu, 2006; Warren, 2014).

It has been highlighted that using accrual information allows to capture full costs (Blondal, 2003), to record symmetrically assets and liabilities (Chan, 2008a, 2008b), to better compare government accounting with the private sector (Oulasvirta, 2014b), and to assign different, sometime competing, values to assets and liabilities (and revenue and expenses) compared to cash (i.e., monetary measures).[23]

On a management decision-making level, available studies based on interviews and surveys on how public managers use the information from an accrual system indicate some advantages such as better access to financial information about all assets and liabilities, but conclude that public managers often consider accrual information to be not relevant or too complex, hence not used for decision-making and in routine operational work (Christensen, 2009; Christiaens & Rommel, 2008; Hassan, 2013; Jagalla et al., 2011; Mack & Ryan, 2006; Otrusinova & Pastuszkova, 2013a, 2013b; Scheers et al., 2005). This may also be explained by the restrictions that managers may face in an accrual-based system, for example on allocation/disposal of assets and liabilities, and may also be attributed to the feeling that accrual reporting is only prepared at a (nonoperational) centralized level (Christensen, 2009; Jones & Lüder, 2011; Smullen, 2009).

It may therefore be concluded that the cash and accrual measures rather appear as complementary information and, as in business practice, can be used together to provide a more comprehensive picture of a government's financial situation today and over time (EC, 2013b; Pina et al., 2009; Wynne, 2003).

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[19]For the purpose of this article, the concepts and definitions refer to European System of Accounts (ESA 95). An upgraded methodological framework (European System of Accounts, 2010) has just been introduced, but with no significant change on these principles (See EC, 1996, 2013c).

[20]See Art. 3 of Directive 2011/85/EU; EC, 2013b. The budgetary accounts are designed to register and monitor the State budget operations with the same accounting rules for revenue and expenses. National accounts is extended substantially to a larger field of analysis, as a quantitative representation of the operations and results for the whole economy. For a review of the differences between National accounts/GFS and IPSAS (accrual accounting) (see Dabbicco, 2013; IPSASB, 2012b).

[21]This condition is particularly relevant for the reconciliation of accounting measures with statistical measures (see Dabbicco, 2013).

[22]Of course, adoption of accrual accounting should overcome the obstacle of those thinking that detailed disclosure of the execution of the budget is the only significant issue (i.e., the argument that legal compliance is more important than financial information and management). Linked to this is the consideration of strengthening the capacity of parliament and courts of audit to analyze accrual-based information (Blondal, 2004; EC, 2012b, 2013b; Hassan, 2013; IFAC, 2012a; Steger, 2010).

[23]This also includes dealing with the difficulties related to recognition of certain types of assets and liabilities that do not exist in the private sector, such as heritage assets, military assets, and government pension schemes (on this, see Blondal, 2003).

Nevertheless, some consider that there is a risk of confusion for decision-makers and users from parallel sets of accounting (see Guthrie, 1998; Pina et al., 2009) and the need of consistency.

The debate on measurement issues of accrual adoption has been focused on the traditional basis of historical cost and current valuation approaches (Blondal, 2003; EC, 2013b).[24] Indeed, in moving to accrual accounting (specifically to future EPSAS standards), a key issue to resolve would be whether and when it would be more useful for users or policy decision-makers to report an asset or liability at initial recognition, and subsequently, in financial statements at historical cost (which may be subsequently impaired or depreciated) or at current value, such as fair value (on this, see Federal Accounting Standards Advisory Board [FASAB], Statement of Federal Financial Accounting Concepts [SFFAC] 7, 2011).

An important difference between the two measures is the treatment of unrealized or "holding" gains and losses on reported assets and liabilities and related operating costs, which provide different information to users of financial statements (FASAB, SFFAC 7, 2011).

MANAGEMENT OF FIXED ASSETS

The available findings of investigations into the main advantages, opportunities, and benefits of accruals in countries where accruals have been implemented (e.g., the UK and South Africa) show that one of the most significant benefits is the development and maintenance of a more complete asset register. Such a register is seen as a necessary tool for compiling a complete and correct balance sheet, though of course it could be accomplished without a move to full accruals accounting (which raises further issues on the valuation of assets).

Improvements of overall public asset management have been observed by countries which have implemented asset registers. This comes with a better assessment of service lives and impairment, which provide important information for planning, for understanding the maintenance requirements of assets, for assessing asset performance, and for resource mobilization and allocation. Barton (2011) mentions that capital maintenance budgeting—as part of accrual budgeting—might provide governments with the information to be more capable of sustaining public infrastructure, a key expectation of citizens (see also Blondal, 2003; EC, 2012b).

From this research side, the following issues may be observed:

a. So-called "bad" governments (Mintz & Smart, 2006, p. 13) can abuse the rules, by using cash-based information for investment policy instead of accrual-based data, and thereby exploiting the ability to move reported capital expenditure artificially between years. If systematic data reporting of payables on capital expenditure is not available, then the shifting of cash payments between accounting periods cannot be corrected, and government may build up "hidden debts."
b. Even if countries do not exploit cash-based measures, governments can simply reduce discretionary investments to reduce debt and deficit, without taking account of the ongoing costs of existing assets (and thereby the consequences of not maintaining and replacing them). This bad practice may be extended further if governments are able to push debt (and deficit) off-balance sheets through public corporations, and the greater use of the private sector under public–private partnerships (PPP) (Mintz & Smart, 2006; Warren, 2014). Of course, this may happen irrespective of whatever basis of accounting countries use. But accrual-based data would give a key tool to identify this behavior with the information provided on capital stock development, notably when investments are below depreciation.

Tables 2 and 3 show respectively statistical gross fixed capital formation and consumption of fixed capital and capital stock in per cent of GDP by EU member state.

Consequently, further research could be directed to investigate if adoption of accrual accounting would effectively overcome these possible distortions, providing information on payables, and on capital stock and the relation between investment and depreciation.

MANAGEMENT OF ACCOUNTS PAYABLE AND RECEIVABLE

Accounting for, and reporting of, payables and receivables is another sensitive issue whose importance has increased with recent speculation on the possible future inclusion of trade credits in the EU definition of government debt.

Whilst the recognition of such liabilities is still not formally included in the definition of EU debt definition, Eurostat nevertheless publishes data on stocks of trade credits and advances, although data prepared by member states are sometimes preliminary.

Table 4 reports data on "Stock of liabilities of trade credits and advances" for the Eurozone in per cent of GDP from a recent Eurostat press release.

A systematic and comprehensive reporting of this item is not usually carried out under "pure cash" (Pina & Torres, 2009, p. 336) accounting (Blondal, 2004; Chan, 2008a; Jones & Lüder, 2011). However, it is worth nothing that

[24] i.e., market value, and related fair value, replacement cost, net selling price, value in use, and more for liabilities, cost of fulfillment, cost of release, and assumption price.

TABLE 2
Consumption of Fixed Capital and Gross Fixed Capital Formation in General Government Sector by EU Member State, in Percent of GDP[1], 2011–2012

	2011		*2012*	
	Consumption of fixed capital	*Gross fixed capital formation*	*Consumption of fixed capital*	*Gross fixed capital formation*
Belgium	1.72	1.76	1.76	1.8
Bulgaria	1.47	3.4	1.53	3.26
Czech Republic	4.19	3.66	4.16	3.2
Denmark	1.91	2.16	1.92	2.56
Germany	1.71	1.67	1.73	1.55
Estonia	1.96	4.13	2.06	5.43
Ireland	1.61	2.48	1.48	2.04
Greece	2.77	1.64	3.23	1.7
Spain	1.92	2.96	1.98	1.72
France	2.69	3.13	2.73	3.14
Croatia	1.46	2.55	1.58	1.97
Italy	1.98	2.02	2	1.91
Cyprus	0.73	3.55	0.72	2.74
Latvia	3.2	4.25	2.52	4.39
Lithuania	2.48	4.36	2.4	3.67
Luxembourg	1.82	3.79	1.92	3.83
Hungary	3.29	3.06	3.33	3.43
Malta	2.14	2.48	2.14	3.07
The Netherlands	2.78	3.34	2.83	3.34
Austria	1.24	0.98	1.24	0.99
Poland	1.73	5.71	1.73	4.58
Portugal	2.26	2.61	2.37	1.66
Romania	2.38	5.42	NA	NA
Slovenia	2.1	3.59	2.21	3.21
Slovakia	2.65	2.3	2.6	1.92
Finland	2.15	2.52	2.23	2.61
Sweden	2.29	3.4	2.33	3.53
UK	1.06	2.15	1.1	2.2

NA: not available.

Source: Elaboration on Eurostat Annual Sector Accounts (ESA95) database. Data publicly available from http://ec.europa.eu/eurostat/data/database/information

[1]The reported ratios of consumption of fixed capital and gross fixed capital formation to GDP are derived from the Annual Sector Accounts (ASA) which are compiled in accordance with the concepts, definitions, and classifications of the European System of Accounts—ESA 1995.

TABLE 3
Total Fixed Assets for General Government Sector in Percent of GDP*—2011–2012—Selected Countries

	2011	*2012*
Germany	43.22	43.28
France	53.18	54.00
Lithuania	56.92	53.97
Luxembourg	57.74	59.62
The Netherlands	63.65	65.25
Austria	37.54	37.27
Slovenia	52.81	NA
Finland	47.95	49.58
UK	48.79	50.02

NA: not available. Source: Elaboration on Annual National Accounts Eurostat online database—Balance sheets—Current prices. Data publicly available from http://ec.europa.eu/eurostat/data/database/information

*Fixed assets are defined in national accounts as nonfinancial produced assets that are used repeatedly or continuously in production for more than 1 year. For institutional sectors, data on total fixed assets until 2012 are available on a voluntary basis (under ESA95); therefore the countries coverage is not complete. According to the new ESA (2010), data transmission from 2013 onward is compulsory. First transmission is scheduled for 2017.

accrual-based accounting, with a complete reporting of receivables and payables, would provide the necessary source data, in addition to leading to a better and more transparent approach to the use of resources in public management by policy makers (Redburn, 1993). This could be notably in relation to avoiding the practice of deferring payments without accounting invoices and/or improperly using trade credit instruments (often not reported in the budget), since this can lead to a mis-measurement not only of the debt but also of the deficit, in addition to wider adverse economic effects such as access to finance for small and medium enterprises (SMEs) (Corte dei Conti, 2013; Franco, 2013) and the potential for inefficient and even corrupt procurement practices.

The two most relevant EU country cases for this issue are Italy and Spain. Italy has been using cash data for investments and does not systematically report other accounts payable for investment at local level, though progress in relation to the calculation on an accrual basis

TABLE 4
Stock of Liabilities of Trade Credits and Advances by Member State in Percent of GDP, 2012–2013

Euro area	*2012*	*2013*
Belgium*	1.40	1.30
Germany*	1.00	1.00
Estonia	1.10	1.00
Ireland*	2.20	2.00
Greece*	1.60	0.80
Spain	2.00	2.10
France*	1.30	1.40
Italy*	3.90	3.40
Cyprus*	0.10	0.10
Latvia	0.90	0.70
Luxembourg*	0.50	0.40
Malta*	1.50	1.40
The Netherlands*	0.80	0.80
Austria*	1.40	1.40
Portugal	3.20	2.70
Slovenia	2.80	2.80
Slovakia	1.40	1.60
Finland	2.00	2.00
Total stock	173,480	164,566
Total GDP	9,824,201	9.904,358
Euro area weighted average percentage	**1.77**	**1.66**

Source: Elaboration on Eurostat. Data publicly available from http://ec.europa.eu/eurostat/data/database/information. Note on stock of liabilities of trade credits and advances (October 2014). Totals in million of euro. Data in gray bold are above the eurozone average stock of liabilities in percent of GDP.

*Data provisional or not complete.

TABLE 5
General Government State Guarantees Versus Total Economy and Rest of the World[1] by EU Member State, in Percent of GDP, 2011–2012

	2011	*2012*
Belgium	19.2	23.3
Bulgaria	1.5	1.3
Czech Republic	9.4	9.8
Denmark	NA	NA
Germany	NA	19,4
Estonia	0.9	2
Ireland	87.4	70.5
Greece	NA	NA
Spain	10.1	16.8
France	5.7	4.7
Croatia	NA	NA
Cyprus	NA	NA
Latvia	2.4	2.9
Lithuania	1	0.8
Luxembourg	NA	7.9
Hungary	8.9	NA
Malta	16	17.2
The Netherlands	NA	NA
Austria	42.4	38.4
Poland	1.3	6.3
Portugal	13.2	14.3
Romania	2.1	2.1
Slovenia	NA	16,8
Slovakia	0	0
Finland	21.7	22.6
Sweden	NA	NA
UK	NA	11

NA: not available. Source: Elaboration on Eurostat online database. Data publicly available from http://ec.europa.eu/eurostat/data/database/information

[1]Data, based on replies from EU member states, show the ratio of government guarantees provided by general government on debt of non-government units, as a percentage of GDP. Data are the result of a Eurostat's survey collecting member states' information in order to analyze their debt structure. As contingent liabilities which are not part of general government gross debt, they should not be added to the Maastricht debt.

has been made recently. Spain, on the contrary, is reporting investments on an accrual basis and does report the related other accounts payable, though other reporting difficulties have been found in the past at regional level.[25]

CONTINGENT LIABILITIES

The estimation of contingent liabilities in the government balance sheet (as well off-balance sheet)—liabilities potentially arising from outstanding guarantees provided by governments, from other contractual obligation such as in public–private partnerships, or from specific financial interventions by governments—is an important issue for transparency of the exposure of governments to future events (Curristine, Joumard, & Lonti, 2007; Mintz & Smart, 2006; Redburn, 1993).[26]

Accrual accounting requires the establishment of provisions (liability uncertain in timing or amount) in certain circumstances, whereas macroeconomic statistics do not recognize provisions and contingent liabilities, although Eurostat has started to collect data on contingent liabilities more systematically within the EU. Accrual-based accounts, especially those using international accounting standards,[27] would help in building up data on this issue.

Table 5 shows the data available for state guarantees in per cent of GDP by EU member state from the Eurostat online database.

TAXES AND SOCIAL CONTRIBUTIONS

Similar to a private company, from the taxes/revenues side, accrual accounting would provide a better system on which

[25]In 2011, unreported arrears (unpaid bills) were revealed in Spain mostly related to health expenditure. This situation now has been clarified, but statistical authorities have requested changes in the public accounting system to ensure this situation will not happen in future (see EC, Eurostat, 2012a, 2013a, 2014c).

[26]This is in the context of budgetary surveillance in Europe where it is considered important for fiscal sustainability and medium-term public finance needs to not just take into account debt levels but also implicit liabilities (notably pension expenditure) and potential liabilities.

[27]See IPSAS 19.

to inform performance measurement, making a clearer link between the revenues and the underlying activity to be funded/planned (Warren & Barnes, 2003). Nevertheless, some argue there is no direct relationship between which or how many goods and services are produced in the public sector and the revenues collected to fund the ongoing production of these goods and services (Blondal, 2004; Smullen, 2009).

An important matter of concern for accrual recording of taxes is related to their complexity, and this is especially due to the varying characteristics of the different categories of taxes on income, corporation taxes, VAT, and taxes on products which may also involve different collection and refund systems.

Moreover, there are often difficulties in correctly identifying the underlying event that gives rise to the revenue (the principle of accrual) (see IFAC, 2013), and, hence, estimating the corresponding amount from assessment and declarations (Chan, 2008a). Adjustments are necessary for pending due payments which are going to be collected in the subsequent fiscal years, refunds due to taxpayers that have not been paid by the government, and pending amounts that are unlikely to be collected, the latter issue a perennial problem in both accounting and statistics.

Table 6 shows the main categories of taxes and the total tax revenue in per cent of GDP by EU member state for the most recent detailed data (year 2012).

Nonetheless, it must be recognized that this degree of complexity varies with the type of tax: for example, payroll taxes would likely be less difficult to estimate on an accrual basis than those taxes with delayed declaration.

The accrual recording of taxes necessitates consideration of the amount, timing, and risk associated with uncollectable taxes, which is a vitally important operational and planning issue (Chan, 2008a), but it should be also said that this implementation would be facilitated by more harmonized fiscal systems at national level and by high-quality information systems.

TABLE 6
Main National Accounts Tax Aggregates by EU Member State in General Government Sector, in Percent of GDP, 2012

Member state	*Taxes on production and imports*	*Current taxes on income, wealth, etc.*	*Capital taxes*	*Actual social contributions*	*Imputed social contributions*	*Ratio of tax revenue to GDP*[1]
Belgium	12.9	16.5	0.8	14.6	2.5	47.3
Bulgaria	15.1	5	0.2	7.2	NA	27.5
Czech Republic	12	7.2	0	15.6	0	34.7
Denmark	16.7	30.4	0.2	0.9	0.9	48.9
Germany	11.2	12	0.2	15.8	1	40.2
Estonia	13.9	6.8	NA	11.5	0.2	32.4
Ireland	11	12.6	0.5	4.4	1.5	30
Greece	12.5	10.1	0.1	10.8	2.8	36.4
Spain	10.4	10.2	0.4	12	1	33.3
France	15.4	12	0.5	17	2	46.7
Croatia	18.2	6.1	0	11.5	NA	35.9
Italy	14.9	15.2	0.1	13.6	0.3	44
Cyprus	14.9	11.1	0	9.1	0	35.1
Latvia	11.5	7.7	0	8.4	0.2	27.9
Lithuania	11.1	4.9	0	11	0.3	27,2
Luxembourg	12.8	14.6	0.2	11.6	1	40.2
Hungary	18.2	7	0.5	13.2	0.1	39
Malta	13.3	13.6	0.2	6	1.3	34.5
The Netherlands	11.4	10.9	0.2	16	0.6	39.2
Austria	14.6	13.4	0	15	1.6	44.5
Poland	12.9	7.2	0	12.3	NA	32.2
Portugal	13.7	9.3	0.2	9.1	2.5	34.6
Romania	13.2	6.1	0	9	0	28.3
Slovenia	14.3	7.8	0	15.2	0.3	37.6
Slovakia	9.9	5.6	0	12.6	0.1	28.2
Finland	14.4	16	0.3	13.3	NA	44
Sweden	18.5	18.1	0	7.5	0.2	44.4
UK	13,4	15	0,2	7,8	0,6	37

NA: not available (or not applicable).

Source: Elaboration on Eurostat online database. Data publicly available from http://ec.europa.eu/eurostat/data/database/information

[1]Total tax revenue (including social security contributions) are defined in this article as taxes on production and imports, current taxes on income and wealth, capital taxes, actual and imputed social contributions (after deduction of capital transfers, from general government to relevant sectors, representing taxes and social contributions assessed but unlikely to be collected). National tax structures differ among countries; therefore as shown in the table the main categories vary considerably in importance from country to country in terms of the tax revenue they generate.

Some may argue that the use of models to estimate uncollectible amounts would lead to uncertain and possibly unrealistic balance sheet items.

At national fiscal policy level, support for cash accounting is often expressed by those who think that current activities must be funded with real (not imputed) cash flows, and this is also the background for basing forecasts on cash (or modified cash) data.

Moreover, it has been argued that in periods of economic crises, it would be an advantage to use cash accounting of taxes, since the collection rate for these taxes is much less certain and ongoing cash revenues are vital for continued solvency (which may often be seen in sometimes widespread and elaborate tax amnesty programs to bring in much-needed cash in the short term).[28]

UNFUNDED PENSION LIABILITIES

For employee benefits (pension liabilities), it should be said initially that the determination of the obligating event and whether these benefits should be accrued over the period of service are challenging for countries (EC, 2012b, 2013b). In fact, the main issues in accounting are related to the complexity of calculation and the availability of reliable information on which to compile and report on such items. Accrual-based recording of pension liabilities requires liabilities representing accrued rights (for both public and private employers) and assets (for beneficiaries) not only to be recorded, but also to measure the significant ongoing costs incurred by the employer during the period of service (EC (Eurostat)/ECB, 2008; Redburn, 1993). Despite its complexity, to ignore these elements can affect the depiction of the financial position, may lead to misreporting of costs, may bias decision-making through costs not being reported in the present, and may mean inadequate provisions for the required future cash flows (Blondal, 2003; EC (Eurostat)/ECB, 2008; ECB, 2009; Semeraro, 2007).

Some accrual accounting skeptics oppose the reporting of unfunded pension liabilities in a government balance sheet (and annual pension expense) on an accrual basis because it requires a range of assumptions and imputations, which can result in unreliable reporting and (if matching assets representing future revenues are not recorded) would result in an unbalanced and unrealistic balance sheet.

But this reluctance also derives from a conceptual issue, since governments think that they can change pension benefits on an ongoing basis if needed with a consequent reduction in obligations covered by the relevant legislation.

TABLE 7
Pension Expenditure Projections (Baseline Scenario) by EU Member State in Percent of GDP[1,2], 2020–2060

	2020	*2030*	*2040*	*2050*	*2060*
Belgium	**13.1**	**15.5**	**16.5**	**16.7**	**16.6**
Bulgaria	9.2	9.6	10.1	11.1	11.1
Czech Republic	8.7	8.9	9.7	11	11.8
Denmark	10.8	10.7	10.3	9.6	9.5
Germany	10.9	**12**	**12.7**	**13**	**13.4**
Estonia	7.7	8.2	8.1	8	7,7
Ireland	9	9	10	11.4	11.7
Greece	**13.7**	**14.1**	**14.9**	**15.4**	**14.6**
Spain	10.6	10.6	12.3	**14**	**13.7**
France	**14.4**	**14.9**	**15.2**	**15.1**	**15.1**
Italy	**14.5**	**14.5**	**15.6**	**15.7**	**14.4**
Cyprus	9.5	11.1	12.1	**14.4**	**16.4**
Latvia	7.3	6.5	6.3	6.4	5.9
Lithuania	7.6	8.4	9.6	10.8	12.1
Luxembourg	10.8	**14**	**16.5**	**18.1**	**18.6**
Hungary	**11.5**	11.1	12.1	**13.5**	**14.7**
Malta	10.6	10.4	11.4	**13.4**	**15.9**
The Netherlands	7.4	9.1	10.4	10.4	10.4
Austria	**15.1**	**16.7**	**16.5**	**16.4**	**16.1**
Poland	10.9	10.9	10.3	10	9.6
Portugal	**13.5**	**13.2**	**13.1**	**13.1**	12.7
Romania	9.2	10.3	11.6	12.8	**13.5**
Slovenia	**12.2**	**13.3**	**15.8**	**17.9**	**18.3**
Slovakia	8.6	9.5	10.6	12.2	**13.2**
Finland	**14**	**15.6**	**15.2**	**14.9**	**15.2**
Sweden	9.6	10.1	10.2	9.9	10.2
UK	7	7.7	8.2	8.2	9.2
EU 27	11.3	11.9	12.6	12.8	12,9

Source: Elaboration on Eurostat GFS database—Economic Policy Committee. Data publicly available from http://ec.europa.eu/eurostat/data/database/information

[1]Data in bold gray indicate pension expenditure projection, in percent of GDP, above to the ratio to GDP for EU 27.

[2]For definition, see: https://open-data.europa.eu/en/data/dataset/HqAi7oWoc3jZfcuaQJRUhQ#.

At a supranational (EU) level, under ESA 1995 these liabilities (and the corresponding assets) were only recognized in the past to the extent that they were funded. However, the new ESA 2010 (European Commission, 2013c) requires that obligations (and entitlements) on pension schemes under defined (unfunded) benefit schemes have to be reported in a supplementary table (position and flow data). For the design of this supplementary table see SNA (2008), Chapter 17 and ESA (2010), Chapter 17 (Table 17.5). The table is also part of the compulsory ESA 2010 Transmission Program for data (Table 29) (EC, 2013c).[29]

Table 7, part of tables on EU policy for Sustainable Development Indicators (contextual indicators), shows how

[28]Some interviews with a member of the EPSAS Task force conducted during 2014 confirmed such reasoning. It has also been noted that even when using accrual methods of recording, the effects of changes in legislation or economic activity tend to have a delayed impact on tax revenue (see EC, Eurostat, 2014d).

[29]See the points made in Verrinder and Dippelsman, Eurostat/ECB (2008). Most of the pension schemes managed by governments in Europe are based on the pay-as-you go principle, whereby current contributions finance current benefits. The author is grateful to two interviewees for providing help and advice in this complex area.

social security pensions are projected in EU member states (EC, 2012).

As mentioned, a key issue for this topic is the measurement of benefits, contributions, and the technical provisions, which has sometimes prompted government to hire actuaries to obtain estimates of liabilities, although not always resolving the big issues (namely related to discount rate and assumptions and other techniques such as accumulated benefit obligation and projected benefit obligation estimates).

At a national level, the accounting on an accrual basis of these liabilities would be supportive of long-term decision-making (Scheers et al., 2005; Warren & Barnes, 2003), providing governments with the information to anticipate future financial difficulties (deficits) and to meet future obligations (that accrue from current activities), such as pension liabilities and other social benefits. This not only sheds light on the funding needs in the long term, but also informs government policy making in this area. It would also reduce the matter of particular concern for analysts on the extent of off-balance sheet liabilities of government employer schemes.[30] In principle, the recognition of defined benefit pension entitlements as assets/liabilities and income/expenses is certainly better than assuming a financial value equal to zero for underfunded and unfunded entitlements until they are paid (see ECB, 2009; Eurostat/ECB, 2008).

CONCLUDING REMARKS: A POTENTIAL ROADMAP FOR RESEARCH ON ACCRUAL ADOPTION?

An early finding of this research shows that accruals and cash accounting might usefully coexist, but in doing so there is a need to establish a complete accounting system, based on the principle of double entry. Moreover, the author believes there is a risk of interpreting that coexistence in a subordinate relationship, such as "accrual is just a complement" or "for informational purposes,"[31] which would reduce the advantages of a combined approach.

With regard to sensitive policy areas, previous research has shown that accrual accounting might provide information on accounts payable and receivable, capital maintenance, off-balance sheet exposures, employee liabilities, and other outstanding liabilities (thereby reducing the possibility for creative accounting in these areas[32]), and also information on the impact of policies applied to current and capital costs that are relevant for national (and supranational) macroeconomic (monetary and fiscal) policy, and for management policy making over resources and program delivery.

Alongside the arguments supporting the development and implementation of accrual-based public accounting standards from the perspective of national governments, it is evident that accrual-based standards would provide information on financial performance, which covers the fiscal impact and financial position of a government entity rather than only information on movements in bank accounts or tax accounting (EC, 2012b, 2013b; Hassan, 2013; IMF, 2012a).

Experience of countries pioneering the adoption of accrual accounting (and budgeting) (i.e., New Zealand, Australia, UK, and more recently Austria) shows a valuable impact on public-sector management (Steger, 2010; Warren, 2014). However, many interested parties, such as practitioners, public managers, policy makers, and academics,[33] have highlighted the need to establish favorable preconditions for supporting the introduction of accrual-based accounts, such as cultural acceptance, the creation of supportive information technology, and the availability to government of qualified accountants.

From a theoretical perspective, the influence of NPM, and institutional theories, on European public-sector accounting reforms has been discussed.

Arguments against such a development have also emerged from the previous discussion. These include the principle that to match revenue against costs is not applicable to government; that assets are of a different and unique nature and therefore normal methods of valuation and depreciation are debatable for public sector; and the risk of confusing financial statements at their introduction. A strong focus has also been devoted to the need to address the issue of the costs of development and implementation.

The risk of having multiple systems and reporting targets has also been raised, which could provide either a distraction to policy makers, or open the possibilities of "arbitrage" between targets.

It remains open to question if during a period of economic crisis, cash accounting is more (not less) appreciated. Solvency of governments has been at stake in the nightmare of the recent financial turmoil, in situations where borrowing from official lenders has strongly increased. In this context, there have been developments in Europe to use a combination of (fast) cash data together with accrual (statistical) data.

All these observations remain valid in the current context of progressive, although for some aspects slow and fragmented, adoption of accruals in public financial reporting.

[30] Some argue for alternative ways to a balance sheet approach in providing such information, i.e., fiscal sustainability reports or notes to financial statements (Oulasvirta, 2014b). However, this may also need to consider comprehensiveness of the reported fiscal measure and the need of standardization (and comparability) among countries.

[31] See Biondi (2014), Oulasvirta (2014b) on the case of Finland; Ministry of Economy and Finance of Italy (MEF) (2010, p. 5) on Italian public finances and accounting reforms.

[32] Koen and van den Noord (2005).

[33] EC (2012b, 2013b), Christiaens and Reyniers (2009), Steger (2010), Pina et al. (2009), Oulasvirta (2014b).

But the three key issues to be taken forward as input to the overall research agenda are:

- Identifying the general benefits to public policy making and public resource management from accrual-based accounting.
- Analyzing key areas where these benefits would be expected to be most relevant, for example those areas discussed in this article for macroeconomic surveillance (unfunded pension and social benefits obligations, taxes, etc.).
- Considering how and when cash-based data should be analyzed and reported alongside accruals. Particularly, there would be a need to investigate who needs cash data, and from this determine how cash data should be presented.

The author is of the opinion that further thoughts on the theoretical and practical aspects of these issues may better frame the reforms of accrual adoption. Whilst the debate (and the reforms) over recent years on accrual adoption seems to be dominated by the strengthening actions of the European economic governance[34] to achieve a better EU fiscal surveillance policy, the public-sector accounting (and consequently statistics) community needs to continue to also face the challenges of good governance:

- at the level of a single entity, where, as discussed, accounting information systems might be used for purposes of management of resources, management of public policy-making, and to establish measures for control and monitoring by senior management and the internal audit function;
- at the national level, where accounting information systems might be used to target capital and current fiscal policy, assessing its fiscal stance, showing a complete and reliable financial position, assuring solvency, and fiscal sustainability, and as an essential basis for audit and parliamentary reports.

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[34]Which aims for improvement of transparency, external accountability, high-quality reporting, and planning fiscal systems in member states.

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APPENDIX

The concepts and definitions underlying the tables reported in this article refer to European System of Account (ESA) 95. The dissemination of the newest ESA 2010-based data started on September 2014 for selected countries; however, the number of tables and content is limited at the time of writing.

Background Note on Taxes

Eurostat publishes data for revenue for individual taxes, according the to national lists provided by member state.

Tax revenue of general government can be grouped into three main categories or types: indirect taxes, direct taxes, and social contributions. For ESA95 definition, see http://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics.

According to ESA95, taxes and social contributions should be recorded on an accrual basis. Regulation (EC) No. 2516/2000 of the European Parliament and of the

Council, as amended, details the rules of two methods (based respectively on assessments and declarations or cash receipts) that can be used at the time of recording and the amounts to be recorded.

For the purpose of this article, the term "general government" does not included taxes collected on behalf of the EU institutions.

Background Note on Gross Fixed Capital Formation (GFCF), Consumption of Fixed Capital (CFC) and Capital Stock

Gross fixed capital formation is a flow value.

For European System of Accounts (ESA95) definitions of GFCF, fixed assets, and CFC, see: http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Gross_fixed_capital_formation, http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Fixed_assets, and http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Consumption_of_fixed_capital_(CFC).

The word "gross" indicates that the expenditure is measured without deducting the consumption of fixed capital. The word fixed is used to indicate that additions to inventories are not included in GFCF (Lequiller & Blades, 2006, pp. 23–24, pp. 132–136).

Gross capital stock is the value of all fixed assets still in use, at the actual or estimated current purchasers' prices for new assets of the same type, irrespective of the age of the assets.

Net capital stock is the sum of the written-down values of all the fixed assets still in use; it can also be described as the difference between gross capital stock and consumption of fixed capital.

The capital stock (value of nonfinancial assets) is usually estimated by the perpetual inventory method (PIM). The PIM is a method of constructing estimates of capital stock and consumption of fixed capital from the time series of gross fixed capital formation (SNA93).

For additional information, please refer to

ESA95, SNA93, and Eurostat's online database under the theme economy and finance, http://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics and http://ec.europa.eu/eurostat/cache/metadata/EN/nasa_esms.htm.