Central government accounting harmonization in EU Member States: will EPSAS be enough?

Vincenzo Sforza
Associate Professor of public management and governance
Department of Economics and Business, University of Tuscia, Viterbo, IT
sforza@unitus.it

Riccardo Cimini
Researcher of business administration
Department of Economics and Business, University of Tuscia, Viterbo, IT
rcimini@unitus.it

One of the most controversial topics currently discussed in the EU is the need for harmonised accrual-based standards to improve the quality of public accounts and reduce differences (adjustments) between the micro- (Governmental Accounting) and macro- (National Accounting) levels. Collecting data from the tables "Reporting of Government Deficits and Debt Levels", provided by 28 European countries over the period of 2010-2013, the paper shows that a set of high-quality accounting standards, like the future EPSAS, will be not sufficient to overcome the lack of harmonisation. Actually, the magnitude of adjustments depends not only on the basis for accounting the working balance (cash, accrual, mixed), but also on accounting practices followed at micro-level, which standard setters cannot control.

Keywords: comparative international governmental accounting, deficit/surplus measurement, macro- and micro-level, accounting practices, legal enforcement.

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1. Introduction

Council Directive 2011/85/EU required European Union (EU) Member States to enforce public accounting systems "comprehensively and consistently covering all sub-sectors of general government and containing the information needed to generate accrual data with a view to preparing data based on the ESA95 standard". It is well known that fiscal monitoring at the EU macro-level uses a statistical framework – the European System of National and Regional Accounts, abbreviated as ESA95[1] – that records accounting flows on an accrual basis, while Member States at the micro-level follow different accounting models, from cash to accrual.

In response to the need for harmonisation in public sector accounting, this paper focuses on the divergence between the working balance (WB) in central government accounts and the ESA95 net borrowing/lending (NBL) as disclosed in Excessive Deficit Procedure (EDP) Table 2A provided by

[1] The ESA95 has been replaced by a new version (ESA 2010) beginning in September 2014. Dasí *et al.* (2016) studied the effects that the transition from ESA95 to ESA 2010 had on EU Member States.

28 EU Member States to the European Commission (Eurostat) over the period of 2010-2013[2]. The paper is grounded in the comparative international governmental accounting research (e.g., Chan and Jones, 1988) in the field of contributions that investigate the relationships between National Accounting (macro-economic perspective) and Governmental Accounting (micro-economic perspective).

Our research hypothesis is that in the European Union, independent of the basis for accounting the WB (e.g., cash, mixed or accrual), the quality of enforcement mechanisms affects the magnitude of adjustments – that is, the difference between the WB and the NBL. Behind this hypothesis, there is evidence that not all adjustments are due to the basis for accounting the WB (Dasí *et al.*, 2013; 2016); instead, they could also be due to accounting practices (Nobes and Parker, 2010) that, at the micro-level, affect the assessment of the WB and, in turn, the magnitude of adjustments. If our assumption is correct, we expect to find that the magnitude of adjustments is lower in countries with high-quality (vs. low-quality) enforcement. In fact, in countries with high-quality enforcement mechanisms, accounting practices reduce the probability of making intentional errors and/or unintentional mistakes in the assessment and/or presentation of the WB and, consequently, lower the magnitude of adjustments disclosed in Table 2A.

Our findings confirm our expectations and contribute to the literature as they demonstrate that not only the basis for accounting the WB, but also the quality of the legal systems that control for accounting practices, affects the magnitude of adjustments. On this subject, in addition to contributing to the existing literature, our findings offer several implications for regulators and standard setters. By analysing the debt data, the paper provides evidence of the need for harmonisation to enhance transparency, comparability and cost efficiency (European Commission, 2013, p. 5). Such harmonisation, which has not been provided in the EU by the International Public Sector Accounting Standards (IPSAS), should be provided by a new set of European Public Sector Accounting Standards (EPSAS) in order to overcome the Babel (i.e., failure of communication) in the EU public accounting system (Heald and Hodges, 2015). However, our results suggest that a high-quality set of standards like the EPSAS will be not sufficient alone to increase transparency (Bastida and Benito, 2007) or comparability (Jones, 2003), features that are required to pursue the NPM principles (Likierman, 2000). This is because discrepancies between the budgetary and national accounting are due to institutional variables that even high-quality principles cannot control.

[2] Table 2A provides the link between the public surplus (deficit) as reported nationally to the Parliament and the net lending (borrowing) at the central government level.

2. Theoretical background and hypothesis development

Differences between National Accounting and Governmental Accounting have been studied in several works by both practitioners and academics.

Ernst and Young (2012, p. 19 ff.), making a comparison of public accounting practices in 27 EU Member States, showed analytically the diversity of accounting models:

- *Between* countries, where some have already implemented accrual accounting models, others have adopted cash-basis accounting systems, and still others use intermediate models; and
- *Within* each country, where different accounting practices are often applied at various governmental levels.

Some academic studies focus on the magnitude of differences between the micro- and macro-levels. Despite Jacobs and Cuganesan's (2014, p. 1252) call to go beyond descriptive studies, most have been conducted with qualitative methods (e.g. Lüder, 2000; Vela and Fuertes, 2000; Brusca and Condor, 2002), and Caperchione and Lapsley (2011, p. 103) noted the lack of empirical-quantitative studies.

Both theoretical and empirical papers show that one determinant of difference between the WB in the central government and the NBL is the basis followed by the Member States to account for the WB at the micro-economic level. In this regard, it is quite reasonable to hypothesise that the more the basis of accounting differs from the ESA95 framework, the more likely it is that the difference between the two measures of debt is significant. Jesus and Jorge (2012, 2016) showed that cash-accrual adjustments are less significant and have lower impacts on the deficit/surplus in countries that report an accrual-based WB and are more significant in countries that follow the cash or mixed basis. In addition, they use evidence from three southern European countries – Portugal, Spain and Italy – to show how the diversity and materiality of these adjustments may question the reliability of the budgetary deficits finally reported in national accounting.

Even though in the literature there is evidence that in countries that do not adopt the accrual basis at the micro-economic level, the adjustments disclosed in Table 2A have significant weight, few papers, if any, show the potential impact of the legal system[3] on the difference between the WB and

[3] Scholars studying comparative governmental accounting innovations with the Contingency Model considered the legal system of countries within the implementation barriers as a factor of influence in the public sector accounting system flexibility (Lüder, 1992, p. 118; Brusca and Condor, 2002, p. 146). Scholars providing evidence of the differences between financial and budgetary reporting policies of EU Member States explained that the legal system could affect the magnitude of adjustments (Jesus and Jorge, 2012; Dasí *et al*., 2013). Also, the Organisation for Economic Co-operation and Development (OECD, 2004) dealt with the ability of a legal system to affect budgetary issues and state-related processes. In a similar manner, Goddard (2002) hypothesised a link between the economy and the state, in accordance with McLennan, Held and Hall (1984, p. 46), who argue that "state transformations are explained by social, political and ideological, as well as the economic, processes specific to a particular formation".

the NBL. In this regard, we hypothesise that the quality of legal systems could have a crucial impact on the magnitude of total adjustments in the extent to which it influences the accounting practices at micro-level. To support such hypothesis, we recall the classification of adjustments provided by Dasí *et al.* (2013; 2016), according to whom, some adjustments arise from:

a) the differences between the basis of accounting used at the micro-economic level and the ESA95 framework (e.g., adjustments resulting from differences in the time of recording, basis of recognition and time period); and
b) factors that are not necessarily regarded as a basis for accounting (adjustments resulting from differences in the classification of transactions between financial or non-financial public budget and national accounts) but rather other dimensions, such as the accounting practices at the micro-level, which involve presentation of single adjustments.

Adjustments of point b) do not depend on the basis to account the WB but from other factors that involve the accounting practices at the micro-level. The quality of legal enforcement could control for these accounting practices. Actually, several authoritative scholars (Nobes and Parker, 2010; Kvaal and Nobes, 2010, 2012) have pointed out that in the EU, despite the use of a common set of accounting standards, both motivations and opportunities for different accounting practices still exist. According to Nobes and Parker (2010), among the motivations for various accounting practices are differences in countries' legal enforcement. This is the reason a measure of the quality of the legal system (enforcement) could be useful to identify in which countries adjustments are high/low due to practices regarding presentation matters of the WB or the different adjustments or due to intentional and/or unintentional mistakes in the assessment of the WB.

To understand how practices affect the magnitude of adjustments, we can assume that two Member States follow the cash basis at the micro-economic level. The first records loan assets granted by the government to debtors as outflow in the working balance; the second records them separately. Thus, in Table 2A, the adjustments of the first country will be higher than those of the second because of the financial transactions included in the working balance.

Therefore, the use of the cash basis shows how, in addition to depending on the basis of accounting, the magnitude of adjustments also depends on practices, which in our example involve presentation matters used at the micro-level to assess the WB. A further example regards the manner with which, at the micro-level, low interest rate loans granted by a government are registered. While the interest has to be recorded on the basis of the contractually agreed interest rate at the macro-level, if at the micro-level different accounting practices are followed (Eurostat, 2013a; 2013b), the magnitude of total adjustments disclosed in Table 2A increases.

These examples are consistent with the findings of Pina *et al.* (2007, p. 583) according to whom developments and changes in financial accountability levels depend on both the context and the characteristics of public administration styles as well as how information is disclosed. Their reference to context leads us to hypothesise that where enforcement is weak, accounting practices at the micro-level lead to a reduction of the quality of statistics and to an increase of total adjustments. This could be due to the risk of both opportunistic behaviors and/or unintentional mistakes (Ronen, 2008; 2012) that could occur independent of the basis for accounting the WB. High-quality enforcement, if the WB is accounted with a cash basis, accrual basis or mixed basis, could alleviate the impact of such practices that have the effect of reducing the magnitude of adjustments disclosed in Table 2A.

All these arguments lead us to formulate our research hypothesis:

H_1: *The quality of enforcement negatively affects the magnitude of adjustments disclosed in Table 2A and thus the difference between the WB and the NBL.*

3. Research methodology

To verify our research hypothesis, we downloaded from the Eurostat web site the set of tables called "*Reporting of Government Deficits and Debt Levels*", which the European countries issue to comply with European Council (EC) Regulation N° 479/2009 and the statements contained in the Council minutes of 22/11/1993. From the tables provided by each of the 28 EU Member States, we collected data in Table 2A that discloses information about the transition (adjustments) between the public accounts budget balance and the central government deficit/surplus. From this set of tables, we collected the WB in central government accounts, the NBL of the central government and the eight items that adjust the former to calculate the latter. We chose to focus on debt data because, according to the European Commission (2013, p. 3), "two of the most important indicators of fiscal sustainability are debt and deficit, which are used within the EU for monitoring compliance with the terms of the Stability and Growth Pact". Following Dasí *et al.* (2013), our choice to focus on the central government sub-sector is due to its greater weight in general government NBL and is intended to guarantee homogeneity in comparisons.

To investigate whether the quality of the legal system affects the magnitude of total ESA95 adjustments, we need a synthetic measure of the quality of enforcement mechanisms. Thus, we collected six variables from the World Bank database, positively correlated with the quality of mechanisms that we summarize using the principal component analysis (PCA) technique in a composite indicator. PCA is useful for data reduction and is increasingly popular in accounting

studies. According to OECD (2008), PCA could be conveniently adopted if there is enough intercorrelation among the variables to be summarized, because it eliminates redundant information and summarizes the variables in a smaller number of variables. In this study, the initial variables are Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. The initial variables have been hand-collected over the period analysed (2010-2013) from the Worldwide Governance Indicators database[4]. Although the World Bank provides one of the most comprehensive datasets regarding governance indicators, we are aware that the use of such indicators as a proxy of legal system quality has several limitations. Also the World Bank recognizes such limitations. This results in the work of Van de Walle (2006, p. 437), which compares and contrasts different sources of data that, in recent years, scholars have used to evaluate the performance of different countries' public administrations.

Using the World Bank governance indicators as a proxy of the quality of the legal system that controls in turn for accounting practices, being such variables highly intercorrelated[5], the PCA summarized them in a single score ($LEGSCORE_{ct}$) that measures the quality of enforcement. Using a cluster analysis, which minimizes the differences between countries within the same cluster and maximizes the ones between entities included in different clusters, we split European countries into two groups depending on the quality of enforcement mechanisms. The dummy variable $dLEGSCORE_{ct}$ identifies countries with high-quality ($dLEGSCORE_{ct}=1$) and low-quality ($dLEGSCORE_{ct}=0$) enforcement mechanisms.

To test whether the quality of enforcement negatively affects the magnitude of adjustments disclosed in Table 2A and thus the difference between the WB and the NBL, we used the following regression model, whose variables have been deflated by the GDP to mitigate possible biases due to the scale effect:

$$NBL_{ct} = \alpha_0 + \alpha_1 WB_{ct} + \alpha_2 dLEGSCORE_{ct} + \alpha_3 dLEGSCORE_{ct} x WB_{ct} + \varepsilon \quad (1)$$

where:

NBL_{ct} is the Net Borrowing/Lending collected for country c at the time t;

WB_{ct} is the Working Balance collected for country c at the time t;

$dLEGSCORE_{ct}$ is a dummy used to split countries in two clusters depending on the quality of their legal systems, calculated for each country and for each year analysed.

[4] The Worldwide Governance Indicators are available at the following link: www.govindicators.org

[5] Results (not tabulated) indicate that among the governance indicators there is enough intercorrelation to perform correctly a PCA. Statistics that could be useful to provide such judgement could be found in OECD (2008) or in Hair *et al.* (2010).

The magnitude and statistical significance of the regression coefficients of this model provide information regarding the magnitude of adjustments disclosed in Table 2A, which allows for testing of our research hypothesis.

In detail:

- α_0 is the intercept of the model;
- α_1 is a regression coefficient that measures the capability of the NBL to map changes of the WB in countries with low-quality enforcement. The more it differs from the theoretical value of +1, the more the total adjustments are significant in magnitude. Our expectation is to find α_1 positive, significant and statistically different from the theoretical value of +1 because it refers to countries with low-quality enforcement regimes, where accounting practices produce higher magnitude of adjustments compared with countries with high-quality legal systems;
- α_2 allows the model to have different intercepts depending on the level of enforcement;
- α_3 measures the *different* ability of the NBL to map changes of the WB in countries with high-quality (vs. low-quality) enforcement. Summing α_1 and α_3, we can find the coefficient of countries with high-quality legal systems. We expect to find α_3 positive such that $\alpha_1 + \alpha_3$ is higher than α_1 and closer to the theoretical value of +1. This suggests that in countries with high-quality (vs. low-quality) enforcement, adjustments are lower in magnitude, allowing NBL to map any change of the WB. We expect α_3 to be statistically significant. This suggests that the quality of enforcement mechanisms affects in a different manner how, at a micro-level, the WB is calculated and so the magnitude of adjustments reported in Table 2A.

Using a regression for panel data, the Hausman (1978) specification test led us to prefer the random effects model to a fixed effect model.

4. Sample selection and descriptive statistics

To implement the methodology described above, we collected data from Table 2A that referred to the transition between the public accounts budget balance and the central government deficit/surplus over the period 2010-2013. Thus, our sample included 112 observations, because we collected data provided by 28 countries over 4 years. The period is shorter than that analysed by other scholars who investigated similar topics but avoids the presence of missing data.

The following table provides information regarding the sample composition and some descriptive statistics of accounting data collected from Table 2A.

[Insert Table 1 about here]

Regarding the sample composition, Panel a) provides evidence that the large majority of our countries adopted a cash basis to account for the WB in central government, followed by those that adopted a mixed basis and finally those that adopted, similarly to the ESA95 system, the accrual basis. Regarding the quality of enforcement, Table 1 helps us to identify the countries with high-quality (Austria, Belgium, Denmark, Finland, Germany, Ireland, Luxembourg, Netherland, Sweden and the U.K.) and low-quality enforcement (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, France, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovak Republic, Slovenia and Spain). This could be useful to demonstrate that our findings that high-quality legal enforcement negatively affects the magnitude of adjustments is not driven by the basis for accounting the WB. Actually, while only two countries adopted the accrual basis to assess the WB in the central government over the 2010-2013 period, countries with high-quality enforcement are by far more than 2. These two countries are the UK (high-quality enforcement) and Spain (low-quality enforcement).

For descriptive statistics, since the mean WB in central government accounts is -17,525 million Euros and the mean NBL of the central government is -18,116 million Euros, Panel b) suggests that, on average, the mean total adjustment is negative. The table also provides descriptive statistics of the single adjustments disclosed in Table 2A instead of the total adjustments. In this regard, we notice that, on average, the financial transactions included in the WB – and, between them, the granted loans – affect more than others the difference between the WB in central government accounts and the NBL of the central government, followed by the residual category "other adjustments". These are categories of adjustments that, according to Dasí *et al.* (2013; 2016), are not necessarily regarded as a basis for accounting but rather other dimensions, such as the accounting practices at the micro-level, which involve the presentation of the single adjustments.

5. Results

The following table shows our results achieved by estimating equation (1).

[Insert Table 2 about here]

The table suggests that, in countries with low-quality enforcement, the magnitude of adjustment is high because the regression coefficient of WB_{ct}, equal to +0.42 and statistically significant at 1%

(e.g., p-value<1%), is different from its theoretical value of +1 at the 1% level of significance (e.g., p-value<1%). This means that, where enforcement quality is low, the NBL does not map the change in the WB in central government accounts because of the relevant magnitude of adjustments. For countries with high-quality enforcement, we look at the coefficient of the interaction term (α_3). This coefficient is, as expected, positive (+0.61) and statistically significant at 1%. This has two important implications. Its statistical significance means that in countries with high-quality (vs. low-quality) enforcement, the NBL maps any change of the WB in a different manner. Its positive sign suggests that in countries with high-quality (vs. low-quality) legal systems, the NBL does a better job of mapping changes of the WB_{ct}. Actually, the coefficient $\alpha_1+\alpha_3$ is very close to the theoretical value of +1, suggesting that, in countries with high-quality enforcement, the value of adjustments is not statistically different from 0. This is probably due to the positive effect of the high-quality enforcement in terms of reduction of intentional and/or unintentional mistakes in the assessment or presentation of the WB due to different accounting practices at the micro-level, which reduce the magnitude of adjustments.

These findings validate our research hypothesis that the quality of enforcement negatively affects the magnitude of adjustments and thus the difference between the WB and the NBL.

To test whether the basis for accounting the WB instead of the quality of enforcement has driven our results, as a sensitivity analysis, we re-ran our regression, adding between regressors a variable equal to 1 for cash basis, 2 for mixed basis and 3 for accrual basis. Results continue to confirm our research hypothesis being the new variable not statistically significant. Results also do not change if we run our regression model within the cluster of entities that adopt the cash basis. In those where the quality of enforcement is high (vs. low), the magnitude of adjustments continues to be lower. Finally, our hypothesis continued to be validated when we re-ran our regression model six times using as interaction terms the single variables downloaded from the World Bank database.

6. Concluding remarks

Over the last 20 years, the accounting systems of all levels of government in Europe have undergone substantial changes, mainly inspired by the New Public Financial Management (Brusca *et al.*, 2015). One of the biggest of these changes has been the adoption of accrual accounting for the public sector, which showed the increasing involvement of private sector instruments in the public entities (Broadbent and Guthrie, 2008). However, both obstacles related to its implementation (Hepworth, 2003) and the latest public debt crisis within the European Union demonstrated that more work is needed to achieve harmonised, transparent, comparable and cost-efficient public accounts. These needs are particularly exacerbated at the micro-economic level

concerning the method that the countries follow to assess the WB in the central government. The literature shows that adjustments depend on the basis for accounting the WB (see section 2). Our findings show that the quality of enforcement is also a determinant of total adjustments in the extent to which it influences the accounting practices followed at micro-economic level to calculate the WB.

We feel this paper contributes to the literature with its findings on how the quality of legal system affects the magnitude of adjustments. These findings could also be useful to standard setters, which will have to form, within the EPSAS Project, a common set of accounting standards to reduce the vulnerability of the EU's economic and budgetary coordination. Given the heterogeneity of the institutional context of EU Member States, a common set of accounting standards will not satisfy all the expectations of harmonisation that come from scholars, practitioners and institutions. Actually, it is the accounting practices, especially in countries with low-quality enforcement, that lead to a significant difference between the WB and the NBL. The future EPSAS standards will likely overcome the Babel in public sector accounts, providing a minimal degree of harmonisation, but they will not guarantee the same transparency and cost-efficiency in all the EU Member States because it is not only the accounting dimension that affects the differences within and between those states.

To improve the odds of success for the EPSAS project, it is essential to take special care of the organizational framework of the Member States by operating a transnational standardization of procedures and practices (Lüder, 2000). This activity requires a systemic approach, which goes far beyond the detection of the state-of-the-art and an incisive gap analysis; it requires a comprehensible and comprehensive *strategy* of harmonization, covering *public policies* (having an impact on the change of national rules), *processes* (moving forward the implementation and integration with the internal control systems), *institutions* (especially those appointed to oversee the process of Public Internal Financial Control [PIFC] – particularly the Central Harmonization Units [CHU] within the Ministries of Finance – and external audit) and *people* (working on training and cultural change of stakeholders such as civil servants, politicians, etc.).

The importance of the role of accounting and auditing professions should also be mentioned, both during the development and, especially, the application and control of the implementation of the new standards. According to Hepworth (2003, p. 42), who identifies the preconditions for success in the introduction of accrual accounting in a government, the effectiveness of the reform will also depend on the skills and the degree of involvement that the accounting and auditing professionals have in EU Member States. The public sector accountants are not one entity that reacts homogeneously to reform, such as the transition to a new set of accounting standards; rather, they

react according to their different identity profiles (Becker *et al.,* 2014, p. 334). Also the cell that is working on the development of the guidance about the first implementation of the future EPSAS recognised that "auditors have an important role in the process of moving to accrual accounting" and that "it is evident that the involvement and support of auditors is key for the success of the accruals reform and they can play an important role in the process from the very beginning" Eurostat (2015, p. 10).

Despite its usefulness and its implications, the paper has also several limitations that could be overcome in future research. These limitations are related to the four-year period investigated, and the limited number of observations analysed (112), and our measure of legal enforcement. Although the World Bank database provides data with a broad coverage of countries that make the Governance indicators the most comprehensive dataset, such indicators are not necessarily reliable in comparative research because of the number and type of sources that vary cross-sectionally or over time (Van de Walle, 2006, p. 440). Moving from these limitations, a possible future development of this work could extend the period investigated and the Member States analysed (if new countries will decide to join the European Union in the next few years) to test whether such results continue to be valid. For the same purpose, future research could also test the robustness of our findings using different metrics that control for the quality of legal systems or could examine government sub-sector data not analysed in this study (e.g., state government, local government, social security funds) provided by the Member States in EDP Tables 2B, 2C and 2D.

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Tables

Table 1. Sample composition and descriptive statistics

Panel a)

Country	*Basis of WB*	V.A.	P.S.	G.E.	R.Q.	R.L.	C.C.	$LEGSCORE_{ct}$	$dLEGSCORE_{ct}$
Austria	cash	1.45	1.24	1.64	1.47	1.83	1.44	+0.96	1
Belgium	mixed	1.36	0.88	1.61	1.24	1.39	1.54	+0.56	1
Bulgaria	cash	0.43	0.32	0.12	0.57	-0.12	-0.23	-1.72	0
Cyprus	mixed	1.02	0.58	1.46	1.23	1.10	1.09	+0.04	0
Croatia	cash	0.46	0.58	0.65	0.49	0.20	-0.03	-1.34	0
Czech Rep.	cash	0.96	1.03	0.92	1.16	0.99	0.25	-0.25	0
Denmark	mixed	1.64	0.99	2.03	1.85	1.88	2.41	+1.48	1
Estonia	cash/mixed	1.10	0.59	1.03	1.40	1.13	0.94	+0.01	0
Finland	mixed	1.58	1.38	2.23	1.84	1.95	2.21	+1.63	1
France	cash	1.20	0.59	1.37	1.17	1.45	1.45	+0.28	0
Germany	mixed	1.36	0.79	1.57	1.55	1.62	1.75	+0.77	1
Greece	cash	0.74	-0.17	0.42	0.54	0.48	-0.21	-1.46	0
Hungary	cash/mixed	0.79	0.69	0.64	1.00	0.67	0.28	-0.70	0
Ireland	cash	1.33	0.94	1.46	1.58	1.75	1.53	+0.78	1
Italy	cash	0.91	0.50	0.41	0.77	0.38	0.01	-1.03	0
Latvia	cash	0.74	0.41	0.77	0.99	0.76	0.15	-0.79	0
Lithuania	cash	0.89	0.70	0.78	1.02	0.78	0.28	-0.56	0
Luxembourg	mixed	1.60	1.36	1.69	1.77	1.80	2.12	+1.36	1
Malta	cash	1.15	1.08	1.22	1.35	1.35	0.90	+0.30	0
Netherland	cash	1.58	1.09	1.78	1.76	1.83	2.15	+1.31	1
Poland	cash	1.04	1.03	0.65	0.96	0.72	0.52	-0.40	0
Portugal	cash	1.04	0.73	1.01	0.74	1.04	0.99	-0.28	0
Romania	cash	0.35	0.14	-0.30	0.59	0.03	-0.24	-1.91	0
Slovak Rep.	cash	0.95	1.03	0.83	1.02	0.50	0.15	-0.52	0
Slovenia	cash	1.01	0.90	1.01	0.66	0.99	0.85	-0.31	0
Spain	accrual	1.07	-0.07	1.06	1.03	1.11	1.04	-0.38	0
Sweden	cash	1.66	1.16	1.96	1.84	1.94	2.29	+1.52	1
U.K.	accrual	1.31	0.39	1.54	1.67	1.70	1.61	+0.64	1

Panel b)

(M/€)	10%	Median	90%	Average	Std. dev.
WB in central government accounts	-52,905	-5,639	-117	-17,525	31,712
Financial transactions included in the WB	-1,374	0	5,048	1,137	4,250
Loans, granted (+)	*0*	*45*	*4,652*	*1,322*	*2,904*
Loans, repayments (-)	*-2,079*	*-12*	*0*	*-554*	*1,088*
Equities, acquisition (+)	*0*	*3*	*2,129*	*896*	*2,197*
Equities, sales (-)	*-1,719*	*0*	*0*	*-603*	*1,973*
Other financial transactions (+/-)	*-1,066*	*0*	*462*	*76*	*2,466*
Non-financial transactions not included in the WB	-1,559	0	174	-621	3,164
Difference between interest paid (+) and accrued (-)	-755	-22	487	-122	1,009
Other accounts receivable (+)	-263	100	1,646	402	1,126
Other accounts payable (-)	-778	-35	365	-71	1,164
WB (+/-) of entities not part of central government	0	0	0	11	56
Net borrowing (-) or net lending (+) of other central government bodies	-1,553	0	629	-407	4,301
Other adjustments (+/-)	-2,550	-34	597	-920	4,421
Net borrowing (-)/lending(+) of central government	-58,851	-5,451	-224	-18,116	30,905

Panel a) tabulates the basis of Working Balance (WB), the Voice and Accountability (V.A.), Political Stability (P.S.), Government Effectiveness (G.E.), Regulatory Quality (R.Q.), Rule of Law (R.L.), Control of Corruption (C.C.), the aggregate score ($LEGSCORE_{ct}$) calculated for each of the 28 European Member States included in the sample analysed and the dummy ($dLEGSCORE_{ct}$) used to split countries in two clusters depending on the quality of their legal systems.
Panel b) tabulates descriptive statistics of the WB, of the single adjustments and of the NBL.
All the values of the table have been calculated as a mean score over the period analysed (2010-2013).

Table 2. Research results

$$NBL_{ct} = \alpha_0 + \alpha_1 WB_{ct} + \alpha_2 dLEGSCORE_{ct} + \alpha_3 dLEGSCORE_{ct} x WB_{ct} + \varepsilon \quad (1)$$

No. observations: 112 (28 countries over the period 2010-2013)

R^2 adjusted = 0.43

Wald chi2(3) = 59.06***

NBL_{ct}	*Coeff.*	*Std. error*	*z-stat.*	*p-value*	*[95% Conf. Interval]*		*VIF*
Intercept (α_0)	-0.03***	+0.01	-4.31	0.000	-0.041	-0.015	
WB_{ct} (α_1)	+0.42***	+0.13	+3.31	0.001	+0.171	+0.668	1.90
$dLEGSCORE_{ct}$ (α_2)	+0.02**	+0.01	+2.37	0.018	+0.004	+0.044	2.28
$dLEGSCORE_{ct} x WB_{ct}$ (α_3)	+0.61***	+0.20	+3.13	0.002	+0.229	+0.997	3.04
Test statistic: $\alpha_1 = 1$			20.99***	0.000			

(***) Value statistically significant at 1%; (**) Value statistically significant at 5%.

The table reports the regression parameters of equation (1) estimated using a regression model for panel data with random effects. The dependent variable is the Net Borrowing/Lending (NBL) and the independent ones are the Working Balance (WB), the dummy dLEGSCORE and its interaction with WB. Variables have been collected for country c at the time t and are deflated by the country GDP.