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FISCAL TRANSPARENCY AND SUSTAINABILITY OF PUBLIC DEBTS IN TIMES OF CRISIS: HOW TO STRENGTHEN INVESTOR CONFIDENCE?

Jules Tilly

ABSTRACT

Fiscal transparency has been central to the public debate since concerns over sovereign debt erupted into the modern euro crisis in 2010. But just how influential is fiscal transparency in dictating the perceptions of the investment community, and thus the conditions in which sovereign states finance themselves? This paper analyzes this question by researching the relationship between fiscal transparency (proxied by the Open Budget Index) and an indicator of financial market perceptions (5-year Credit Default Swap spreads). It concludes that, in the pre-crisis period, transparency had little to no significant impact on investor perceptions – it was, in short, ignored by investors that continued to give low interest rates to government borrowers with even the most non-transparent budget records. But this all changed since the start of the crisis in 2008, and markets have exhibited dramatically higher sensitivity to fiscal performance. In the post-2008 era, the relationship between fiscal transparency and investor perceptions has strengthened considerably. Furthermore, we find that budget execution (including, *inter alia*, audit and accounting standards), is the aspect of fiscal transparency that shows the greatest impact on market conditions in a time of crisis.

Jules Tilly is a 2012 graduate of the M.P.A. in Public Policy and Management at the London School of Economics' Institute of Public Affairs. Contact: J.Tilly1@lse.ac.uk.

I. INTRODUCTION

The past decades have been marked by an increasing concern about fiscal transparency and economic performance. Amongst other causes, the Emerging Market crises during the 1990s have raised numerous questions about the consequences low levels of public finance transparency can have on the sustainability of public debts. In particular, it was considered a contributing factor in the collapse of several Latin American countries; for instance, Mexico in 1994-1995.

The immense international bail-out programs that developing countries were forced to access during these crises lent legitimacy to the development of tight fiscal standards to reinforce the international financial system.[66] The International Monetary Fund (IMF) began to establish principles of good practices, and to institutionalise them through the production of reports on macroeconomic performance and Reports on the Observance of Standards and Codes (ROSCs) for country members. In particular, a Special Data Dissemination Standard (SDDS) and a Code of Good Practices on Fiscal Transparency were adopted respectively in 1996 and 1998 (revised in 2001 and 2007). A similar guideline: Best Practices for Budget Transparency, was produced by the OECD in 2002.

The recent debt crisis in the advanced world has brought great, new challenges to the notion of credible and transparent public finances. Greece and Ireland received support packages led by the European Union and IMF in 2010, Portugal accessed support in 2011, and Spain followed in 2012. Though advanced economy sovereign bonds have traditionally been priced as risk-free, the borrowing costs on these instruments have increased in a time of crisis just like with any private borrower. The interest rate charged by investors' in euro zone sovereign bonds has increased as the confidence that investors have in the fiscal circumstances has waned. Fiscal non-transparency has been important in the build-up, making it important to consider how good budget practices impact investor behaviors and confidence in a time of crisis.

This essay considers this problem in the context of the modern financial crisis. It finds that, in the pre-crisis period, transparency (using the Open Budget Index) had little or no significant impact on investor confidence (measured by Sovereign Credit Default Swap spreads). However, this impact is shown to have become much more significant as the crisis has deepened. More precisely, the transparency of budget

[66] Mallat, Ramzi and Duc Kuong Ngyuyen, (2008), 'Does Macroeconomic Transparency help Governments be Solvent? Evidence From Recent Data', Chapter 25 in 'Risk Management and Value: Valuation and Asset Pricing', World Scientific Studies in International Economics Vol. 3, p.616

execution (including, *inter alia*, audit and accounting standards) seems to have a greater impact on investors' confidence in a time of crisis.

The essay is structured as follows: Section I will present a literature review, Section II presents the theoretical framework by describing precisely the notion of transparency and how it pertains to investor confidence. Finally, Section III presents the empirical analysis and analyses the findings.

II. LITERATURE REVIEW

There is substantive past literature that studied the relationship between budget transparency and investor confidence. Most of these studies examined the relationship in emerging market economies. The Institute of International Finance (2002) produced a study showing that emerging economies adopting SDDS have lower sovereign spreads. Christodies, Mulder and Tiffin (2003) support this conclusion that SDDS is significant in lowering borrowing costs. They also find a significant improvement in credit ratings with the adoption of best practices in budgeting. Looking mainly at SDDS and the Code of Good Practices on Fiscal Transparency, Glennerster and Shin (2003) makes a similar conclusion. And Hameed (2005) use a proprietary index of compliance with IMF transparency standards to conclude a positive relationship between compliance and higher sovereign credit ratings.

III. TRANSPARENCY AND INVESTORS' CONFIDENCE

This section discusses measures of fiscal transparency to be included as the explanatory variable, presents the rationale that links transparency to investor confidence, and proposes Sovereign Credit Default Swap (CDS) spreads as the dependent variable to represent investor confidence.

A. Measuring Fiscal Transparency

Fiscal transparency is defined as:

> …Openness toward the public at large about government structure and functions, fiscal policy intentions, public sector accounts, and projections. It involves ready access to reliable, comprehensive, timely, understandable, and internationally comparable information on government activities so that the electorate

> and financial markets can accurately assess the government's financial position and the true costs and benefits of government activities, including their present and future economic and social implications.[67]

The important point is that transparency does not only refer to the coverage of the budget, but presents, in a broader sense, three dimensions; namely, the clarity of the budget process, the extent of the information revealed, and the quality and reliability of this information. The IMF's Code of Good Practices on Fiscal Transparency includes each of these dimensions[68]. It is divided into four best practices: (1) the *Clarity of Roles and Responsibilities* covers topics like the distribution of fiscal powers and the relationships between public entities; (2) the *Open Budget Processes* covers the timeline of the budget process, the description of policy objectives and macroeconomic forecasts, and the clarity of the accounting system; (3) the *Public Availability of Information* describes the proper availability and timeliness of budget data and information, and necessary rules for efficient monitoring of fiscal risk; and (4) the *Assurances of Integrity* provides that data should be held reliable, through internal and external scrutiny.

A related classification of fiscal transparency is proposed by Hameed[69] in which the author divides the definition into four parts based on the ultimate aim of each measure. These are: (1) *Data Assurance* such as to improve the reliability of fiscal data (including, *inter alia*, budget classification, budget coverage and release of data); (2) a *Medium-Term Budgeting Framework* to allow for better assessment, formulation and implementation of policies over a longer time horizon. This includes mid-year budget documents, policy objectives and forward estimates of macroeconomic indicators; (3) *Budget Execution*; and (4) *Disclosure of Fiscal Risk* to more accurately assess the real risk inherent in public finances (and includes disclosure of contingent liabilities, debt structure and quasi-financial activities).

To account for the multi-faceted definitions of fiscal transparency, the Open Budget Index (OBI), prepared by the International Budget Partnership, represents to-date the only reliable and broadly accessible comparative indicator. It is produced every two years since 2006 and is mainly based on the criteria developed by the IMF and the OECD, discussed earlier, and the Lima Declaration of Guidelines on Auditing Precepts, delivered by the International Organisation of Supreme Audit Institutions.[70] The Open Budget index is built on a survey completed by independent experts, thus ensuring the reliability of

[67] Koptis, George and Jon Craig, (1998), 'Transparency in Government Operations', IMF Occasional Paper n.158, p1

[68] IMF,(2007), Code of Good Practices on Fiscal Transparency

[69] Hameed, Farhan, (2005), 'Fiscal Transparency and Economic Outcomes', IMF Working Paper WP/05/225, p. 10-11

[70] International Budget Partnership, (2011), 'Open Budgets. Transform Lives. The Open Budget Survey 2010', International Budget Partnership, p. 14

the information.[71] The questions of the survey adequately cover the different components of fiscal transparency.[72] In this study, we assume the OBI as the proxy for Fiscal Transparency.

B. Linking Transparency to Investor Confidence

There are several channels that could explain why low levels of fiscal transparency may reduce investor confidence.

The clarity of budget execution can have two main effects, both positive. Firstly, it leads to a correct implementation of the budget and may lead to better policies by increasing political discipline such as through a reduction in off-budget expenditures. Public officials will be held accountable in this way. Secondly, internal and external scrutiny processes, as well as standards and publication requirements, reduce incentives for moral hazard among the executives and reduce uncertainty for the investors.

However, the three other components in the Hameed paper are more uncertain in the impacts on confidence. On one side, the extent of information disclosed, including, the coverage of the budget documents and their timely disclosure may positively affect investor confidence. In particular, it may reduce perceived risk by providing information on the solvency of government and implicitly be a control on moral hazard risks. In this way, it can be assumed that transparency shows that a government has nothing to hide.[73]

But on the opposite end, if disclosed information had been falsified in the past for short-term interests, then the sudden revelation of true budget statistics can result in a sudden economic shock. This very event was the origin of the Greek crisis in 2010.

And so, while there are important reasons to believe that fiscal transparency can support investor confidence, the answer is not always so simple.

C. Measuring Investor Confidence

It is difficult to assess investor confidence because it is extremely volatile, depends on numerous factors, and relies on the risk-propensity of each individual. However, a good proxy is to look at the market estimate for the risk of default of the issuer. Here, an important indicator is the spread on Sovereign Credit Default Swaps.

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[71] ibid p. 15

[72] See Annex III – Open Budget Survey correspondence with the four dimensions of Fiscal Transparency

[73] Glennerster, Rachel and Yongseok Shin, (2003), 'Is Transparency Good for You and Can the IMF help?,' IMF Working Paper WP/03/132, p. 13

The purpose of a CDS is to insure against potential losses related to a credit event. If the contract is attached to a sovereign liability, it then protects against the losses in the event of a sovereign default. The spread (or premium) is paid by the protection buyer (generally the investor) to the protection seller (generally an insurance company). Spreads are determined by market forces and represent the expected default risk of the issuer. Hence, CDS spreads are an indicator for the market's current perception on sovereign risk. The advantage to adopting CDS spreads as the dependent variable is that they are in theory independent from interest rate movements. The only risk embedded is that from default, or credit risk.[74]

Here, one caution to point out is that CDS spreads only track the investors' perception on credit risk; the true credit risk can be significantly dislocated from this market perception at any one time.[75] In that sense, it differs somewhat from credit ratings that are based on diverse factors aimed at purely objectively assessing the real probability of default.

Looking at investor confidence through the scope of CDS spreads allows us to measure the extent to which fiscal transparency is considered by investors.

III. EMPIRICAL ANALYSIS

To analyze the relationship between fiscal transparency and investor perception, we look at the impact of changes in the Open Budget Index on CDS spreads. The data and approach are presented, followed alternative dimensions of fiscal transparency will be considered.

A. Data and Approach

The measurement of Fiscal Transparency used is the Open Budget Index over the three periods covered (2006, 2008 and 2010). We assume a panel data regression, including country and time fixed effects and several control variables.

The data contain thirty-six countries[76] over a period of four years from January 2007 to February 2011. Each country has been selected based on the availability of five-year CDS spread data.

[74] Arvanitis et al. (2001), op. cit. fn. 2

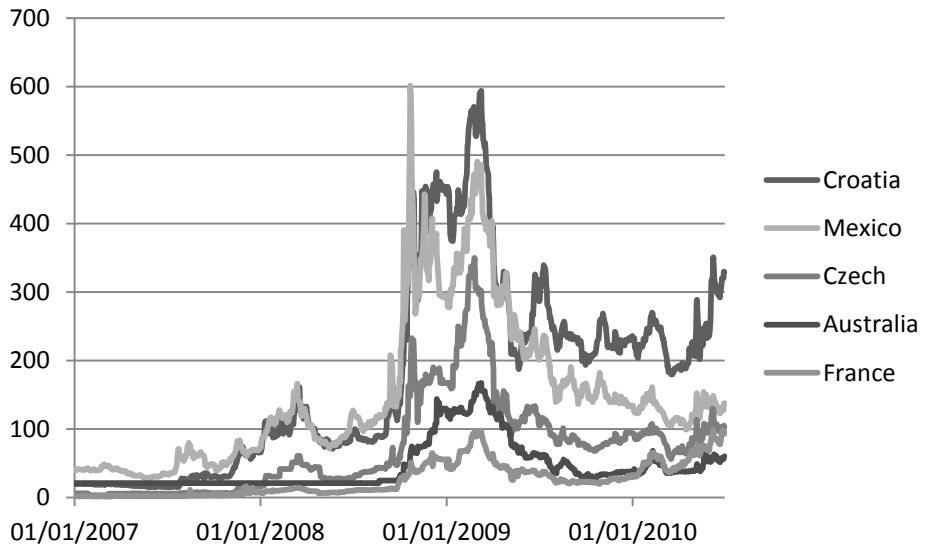
[75] Wehinger, Gert, (2010), 'Sovereign Debt Challenges for Banking Systems and Bond Markets', OECD Journal: Financial Market Trends, Vol. 2, p. 9

[76] See Annex II – List of Countries

A number of control variables are included. GDP growth as well as inflation must be included to represent the impacts on spreads from macroeconomic performance. In the same way, the fiscal balance, the level of international reserves and the current account balance are incorporated as controls. The fiscal balance proxies the solvency of government, while international reserves and the current account balance indicate the risk of a currency crisis. Former studies have also included variables such as GDP per capita[77], but we do not find a significant impact of it on CDS spreads. The explanation might be that the impacts that GDP per capita has on bond yields is not reciprocated in its impacts on CDS spreads.

The impact of several dummy variables is interesting to observe (in models without fixed effects). In particular, a country will certainly be considered riskier if it has defaulted recently. Similarly, democracies exhibit higher levels of transparency[78] and can also be considered as more stable, as it shows less political risk. A dummy for developing countries can also be included, as well as one for the euro-zone.

Figure 1: 5-Year CDS Spreads (selected countries)



Source: Bloomberg.

Now, the goal is to identify how investor perceptions on fiscal transparency change when the economy become unstable. To do this, two regressions are presented: one done only on data from prior to the start of the global financial crisis, and one conducted on data post- the crisis era. The financial crisis

[77] See for instance: Glennester et al. (2003), op. cit. fn. 9

[78] ibid, p. 33

accelerated in the middle of 2008.[79] Hence, the two periods are separated into before and after June 2008.[80] It is easy to observe the contrast in CDS spreads between these two time periods in **Figure 1**.

B. Analysing the Relationship between the OBI and CDS spreads

Table 1 shows the estimated results for the pre-financial crisis regressions of CDS spreads on Fiscal Transparency (measured by the OBI). It shows no significant relationship between the level of transparency and the spreads of sovereign CDS. However, it demonstrates a strong relationship between the dependent variable and the inflation and growth variables.

Table 1: Pre-Crisis Era: CDS Spread and Fiscal Transparency (OBI)
(Panel Data Regression, monthly average 01/2007-06/2008)

	CDSspread (1)	CDSspread (2)	CDSspread (3)	CDSspread (4)	CDSspread (5)	CDSspread (6)	CDSspread (7)
OBI	0.42	0.20	0.07	0.21	0.28	0.55	1.91
	(0.52)	(0.40)	(0.40)	(0.42)	(0.42)	(0.43)	(1.42)
INFL		13.09				11.51	23.14
		(0.58)***				(0.69)***	(2.34)***
GR			-4.23			-4.00	-31.55
			(1.16)***			(1.23)***	(1.99)***
FSCBAL				-1.99		-2.14	6.45
				(1.62)		(1.60)	(2.70)**
DEFLT					41.01	27.53	
					(42.12)	(39.83)	
EURO						-75.31	
						(25.50)***	
Obs.	1800	1800	1800	1800	1800	1800	1800
Fixed Effects	No	No	No	No	No	No	Yes
R^2	0.14	0.35	0.39	0.42	0.42	0.51	0.54

Source: Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% level. OBI – Open budget index; INFL – inflation rate; GR – Growth rate; FSCTBAL – fiscal balance; DEFLT – dummy for countries defaulted in the past 15 years; EURO – dummy for euro-zone countries. A variable included in one column is also used as a control in the next one (it appears again only if a major change is observed). Other control variables can be included but are not significant and do not create any major change in the result (current account, international reserves, GDP per capita, developing dummy).

[79] Drenovak, Mikica, Branko Urošević and Ranko Jeli, (2010), 'European Bond Etfs - Tracking Errors and Sovereign Debt Crisis', European Financial Management Association p. 2

[80] Different sets of regressions are processed with different cut-offs (going from February to September 2008), but the results remain similar.

The interpretation based on the Table 1 results is that, in stable times, transparency does not appear to have a great impact on investor confidence. Two reasons can explain this observation. Firstly, the probability that a country defaults in stable times is minimal. Since to some there is no credible threat of default, there is no reason to monitor government activities. As such, the variation in CDS spreads is explained by other economic drivers. Secondly, inflation seems to be a dominant explanatory variable in pre-crisis times. As CDS is often used for hedging purposes[81] (a financial position taken in an attempt to offset exposure to price fluctuations in an already existing position to remove unwanted risk), it would make sense that inflation might have a correlated impact. Overall, investors have no incentive to monitor the actual risk of default and thus the justification for the relationship between investor confidence and fiscal transparency cannot hold.

Table 2 reproduces this analysis looking at the post-financial crisis period. In this period, the situation changes significantly. In particular, the degree of fiscal transparency now presents a systematically significant relationship in predicting CDS spreads.

In Table 2, Column (6) shows that, on average, increasing the OBI by one point is associated with a reduction in the sovereign CDS spread by 3.85 points. Considering the wide range that OBI scores vary within, this could have important consequences: a country with a high index score (70 to 90) would implicitly have an average CDS spread that is lower by around 150 points compared to a country with a low index score (30 to 50). Including fixed effects in Column (7) supports this finding, though the level of significance decreases.

[81] Wehinger (2010), op. cit. fn. 13, p. 9

Table 2: Crisis Era: CDS Spread and Fiscal Transparency (OBI)
(Panel Data Regression, monthly average 07/2008-02/2011)

	CDSspread (1)	CDSspread (2)	CDSspread (3)	CDSspread (4)	CDSspread (5)	CDSspread (6)	CDSspread (7)
OBI	-12.10	-4.45	-3.79	-3.62	-3.42	-3.85	-6.78
	(2.03)***	(1.21)***	(1.14)***	(1.15)***	(1.16)***	(1.25)***	(3.28)**
INFL		29.88				31.71	25.72
		(2.34)**				(2.54)**	(3.49)***
GR			-19.79			-18.43	-17.97
			(1.66)***			(1.78)***	(2.80)***
FSCBAL				-5.46		-4.21	-2.75
				(3.51)		(3.53)	(4.94)
DEFLT					184.67	191.54	
					(79.40)**	(78.87)**	
EURO						44.32	
						(50.57)	
Obs.	1152	1152	1152	1152	1152	1152	1152
Fixed Effects	No	No	No	No	No	No	Yes
R^2	0.11	0.45	0.56	0.56	0.57	0.57	0.54

Source: Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% level. OBI – Open budget index; INFL – inflation rate; GR – Growth rate; FSCTBAL – fiscal balance; DEFLT – dummy for countries defaulted in the past 15 years; EURO – dummy for euro-zone countries. A variable included in one column is also used as a control in the next one (it appears again only if a major change is observed). Other control variables can be included but are not significant and do not create any major change in the result (current account, international reserves, GDP per capita, developing dummy).

These results confirm that sovereign investors primarily consider fiscal transparency only after the incidence of a financial crisis. A public liability that was considered risk-free before becomes exposed to a potential default. As the likeliness that a country defaults increases, investors are incentivized to considerer the soundness of its budget. It also explains why the default dummy did not have a significant relationship with CDS spreads in Table 1 but presents a considerable relationship in Table 2. In the context of the financial crisis, it shows that countries with higher transparency tend to have lower increases in CDS spreads.[82]

[82] An alternative measure for transparency is used in **Table 4**, Annex I. It uses countries' degree of acknowledged compliance to IMF standards on a monthly basis and shows similar results, 52 countries are included in the analysis. However, doubts can be expressed pertaining to the reliability and precision of this data.

However, this analysis presents a few drawbacks. Firstly, the OBI changes slowly over time and the use of a Panel Regression may affect the estimation of this relationship.[83] Secondly, it is difficult to control for other institutional effects. Although the use of a dummy for democratic countries does not have a significant effect, it is still possible to imagine other factors that could influence the results; for example, constitutional rules or legal constraints on the public deficit. These could arguably be absorbed in the OBI as strong institutional features are often correlated with one other. In that case, it is possible to argue that the coefficient on the variable of interest is overestimated. Thirdly, there is a possible endogeneity problem: it is likely that most countries adopted new policies in response to the financial crisis, and improvements in fiscal transparency was included in multiple cases. In the past, several possible instrumental variables have been proposed to solve this problem, including political competition or presidential system.[84,85] Finally, it does not divide the impact of fiscal transparency into the individual components, and thus does not attempt to explain which aspects of fiscal transparency are most important in explaining changes in CDS spreads in crisis years.

C. Fiscal Transparency's Four Components and Investor Confidence

To try to identify the impact of the individual transparency components, we adopt a similar methodology as Hameed (2005), breaking apart the OBI into four components: data assurance, medium term budgeting framework, budget execution and fiscal risk.[86] This approach presents two problems. The first one is that these components are created from the 2010 Open Budget Survey and thus does not vary over time. To address this first problem, we use cross sectional regressions over averaged data for 2010. The second issue is that the four components are highly correlated to one other, which presents multicollinearity and will reduce the significance of each factor individually. **Table 3** presents the findings:

[83] However, in that particular case, robustness checks using series Cross-sectional regressions present similar results (see Annex I – Robustness Checks)

[84] Alt, James E., David Dreyer Lassen, and David Skilling, (2003), 'Fiscal Transparency and Fiscal Policy Outcomes in OECD Countries,' Economic Policy Research Unit Working Paper No 2003-2, OECD, p. 23

[85] An IV estimation with a two-stage-least-square estimator has been attempted, with both political competition and presidential system. However, the first assumption for instrument variable does not hold, although it is possible that the index for political competition used was flawed.

[86] The list of the questions from the Open Budget Survey used for each component is presented in Annex III

Table 3: Crisis Era: CDS Spread and Fiscal Transparency Components
(Cross-Sectional Regressions, average over 2010)

	CDSspread (1)	CDSspread (2)	CDSspread (3)	CDSspread (4)	CDSspread (5)	CDSspread (6)
OBI	-2.19 (0.94)**					
DAS		-1.74 (2.89)				3.85 (3.31)
MTB			-8.51 (4.16)**			-1.77 (6.17)
BEX				-7.48 (2.40)***		-5.69 (3.26)*
FR					-16.67 (7.08)**	-11.59 (9.00)
Obs.	36	36	36	36	36	36
Adj. R^2	0.82	0.79	0.82	0.85	0.83	0.84

Source: Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% level. OBI – Open budget index; DAS – data assurance; MTB – medium term budgeting framework; BEX – budget execution; FR – Fiscal Risk. All regressions include the following controls: inflation, GDP growth, fiscal balance, and dummies for geographical zones: Latin America, Europe, Middle-East and Asia. Other combinations of controls have been tested without affecting significantly the results.

In Table 3, Columns (1) to (5) only include either the complete OBI index or one component at a time. Although these estimations are biased, it provides a good idea of the intensity of each component as a part of overall fiscal transparency. The component with the highest coefficient estimate is Fiscal Risk, but the most significant variable (by t-statistic) is Budget Execution. Data assurance is not significant. A similar pattern is found in column (6), which includes all four components at once. As predicted, in column (6), the coefficient and significance level on each variable is reduced due to multicollinearity. Budget Execution is the only remaining significant component at the 10% level.

The implications of these results confirm the hypothesis that the components of Fiscal Transparency are perceived with different intensities by investors. More precisely, the strong relationship between the Budget Execution component of Fiscal Transparency and sovereign CDS spreads imply that the role of internal and external audits are particularly important to the credibility of the budget. The rationale behind this fact could be that the information disclosed throughout the scrutiny process is easier to assume as more reliable than those included within the budget. Thus, countries with low scores currently in Budget Execution (for instance, Indonesia) might significantly improve their financing conditions were they to reform budget execution institutions, such as by increasing coverage of audit reports and adopting a timeframe for budget releases. In the same way, investors seem to react strongly to disclosure on Fiscal

Risk. This can be explained by the fact that uncertainty on matters such as the level of the debt of a country, or its external financial position is a source of major concerns for investors.

IV. CONCLUSION

When analysing the relationship between Fiscal Transparency (measured by the OBI) and investor confidence, this paper concludes that the disclosure of public budget information only truly makes an impact on risk perceptions in times of financial crisis. This can be explained by the fact that a sovereign default in normal economic times is extremely unlikely.

Fiscal Transparency can be decomposed into four components: Data Assurance, Medium-Term Budget Framework, Budget Execution and Fiscal Risk. In analyzing the four components, this paper shows that Budget Execution is the most relevant element in determining investor perceptions on sovereign risk. Thus, strengthening external and internal audits could improve the perception of a government's solvency during times of systemic crisis.

ANNEX I: ROBUSTNESS CHECKS

Figure 2: Evolution of Estimated Coefficient on OBI
(Monthly Cross-Sectional Regression, 01/2007-02/2011)

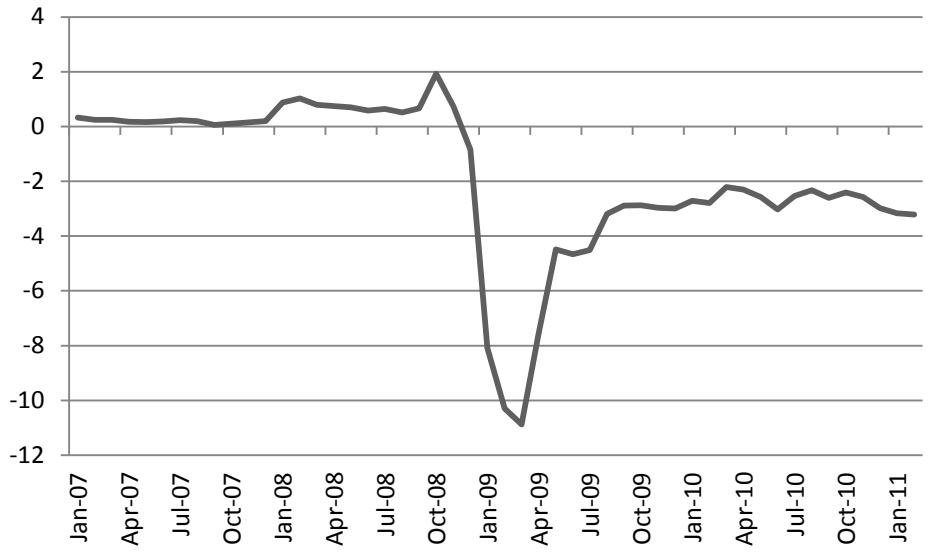
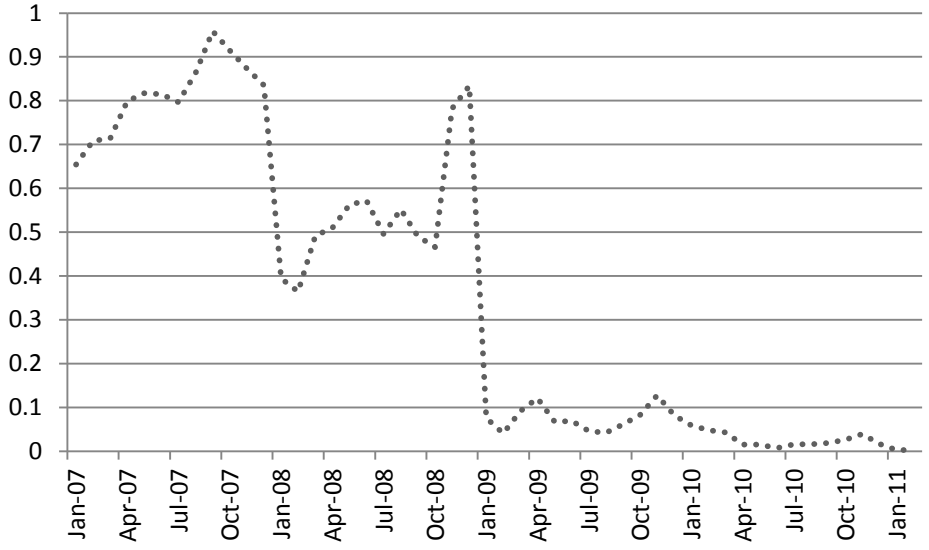


Figure 3: Evolution of Estimated P-Values on OBI
(Monthly Cross-Sectional Regression, 01/2007-02/2011)



These graphs show the same relationship between transparency and spreads as expected: that the relationship becomes stronger following the start of the financial crisis as countries with higher

transparency observe lower increases in CDS spreads. (The controls included are: Inflation, GDP growth, Fiscal Balance, International Reserves, dummies for geographical zones and for default in the past 15 years).

Table 4: Alternative Transparency Measurement: Acknowledged Compliance With IMF Standards

(Panel Data Regression, monthly average 07/2008-02/2011)

	CDSspread (1)	CDSspread (2)	CDSspread (3)	CDSspread (4)	CDSspread (5)	CDSspread (6)	CDSspread (7)
COMP	-6.51 (1.01)***	-4.53 (0.67)***	-5.08 (0.63)***	-4.76 (0.64)***	-4.49 (0..67)***	-4.44 (0.71)***	-2.78 (0.73)***
INFL		18.43 (1.67)***				20.79 (1.62)***	20.52 (2.35)***
GR			-28.10 (1.23)***			-26.35 (1.41)***	-19.95 (1.78)***
FSCBAL				-4.92 (1.94)**		-4.79 (1.95)**	2.34 (2.35)
DEFLT					89.46 (53.30)*	88.88 (53.49)*	
EURO						-8.30 (32.99)	
Obs.	1800	1800	1800	1800	1800	1800	1800
Fixed Effects	No	No	No	No	No	No	Yes
R^2	0.34	0.50	0.51	0.58	0.51	0.51	0.56

Source: Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% level. COMP – acknowledged degree of compliance with IMF standards; INFL – inflation rate; GR – Growth rate; FSCTBAL – fiscal balance; DEFLT – dummy for countries defaulted in the past 15 years; EURO – dummy for euro-zone countries. A variable included in one column is also used as a control in the next (it appears again only if a major change is observed). Similarly, other control variables are included but no major change is observed (current account, international reserves, GDP per capita, developing dummy). COMP: degree of compliance going from 0 to 100 by step of 20, depending on whether a country do not comply (20), intend to comply (40), enacted regulation for compliance (60), partially comply(80) or fully comply (100). If the results seem interesting, the data does not appear as reliable as the OBI. Source: estandardforum, based on countries' declaration to the IMF, available at: http://www.estandardsforum.org/browse/standard?standard_id=3, last accessed 30/03/11.

ANNEX II: LIST OF COUNTRIES

OBI	IMF Compliance only
Brazil	Australia
Bulgaria	Austria
Chile	Belgium
China	Denmark
Colombia	Estonia
Croatia	Finland
Czech	Greece
France	Hungary
Germany	Ireland
Italy	Israel
Kazakhstan	Japan
Lebanon	Latvia
Malaysia	Lithuania
Mexico	Netherlands
New Zealand	Panama
Norway	Qatar
Peru	
Philippines	
Poland	
Portugal	
Romania	
Russia	
Slovakia	
Slovenia	
South Africa	
South Korea	
Spain	
Sweden	
Thailand	
Turkey	
Ukraine	
United Kingdom	
United States	
Venezuela	
Vietnam	

ANNEX III: OPEN BUDGET SURVEY CORRESPONDENCE WITH THE FOUR COMPONENTS OF FISCAL TRANSPARENCY

The score are taken from the Open Budget Survey, in each category, the score for all the questions is summed up and divided by 100.			
Data Assurance	Medium-term Budgeting Framework	Budget Execution	Fiscal Risk
Questions: 1 to 4 7, 8 11 13 18 to 32 36, 37 41 46, 47 and 61	Questions: 5, 6 9, 10 14 to 17 48 to 51 55 72 and 73	Questions: 52 to 54 66 to 71 81 to 88 and 92 to 123	Questions: 12 33 to 35 38 to 39 42 to 45 89 and 90

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