Correction to: End of the sovereign-bank doom loop in the European Union? The Bank Recovery and Resolution Directive

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The publisher regrets its mistake in capturing Tables 1–7 incorrectly. The correct Tables 1, 2, 3, 4, 5, 6 and 7 are shown below:

The original article has been corrected.

The online version of the original article can be found at <https://doi.org/10.1007/s00191-018-0576-2>

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Table 1 List of banks by country and total assets

Total assets		2012	2013	2014	2015	2016	AVG 2012-2016
Country	Banks	Billion Euro					Country Weight
Austria	Erste Group	213	208	198	200	206	100%
Belgium	KBC Bank	257	239	245	252	262	49%
	Dexia Credit Local	357	223	247	230	238	51%
France	BNP Paribas	1907	1810	2077	1994	2121	39%
	Credit Agricole	1783	1688	1763	1698	1857	35%
	Societe Generale	1251	1235	1308	1334	1367	26%
Germany	Commerzbank	636	551	558	533	536	22%
	Deutsche Bank	2020	1611	1709	1640	1741	67%
	IKB Industriebank	32	27	25	21	21	1%
	Bayerische Landesbk	286	255	232	215	224	10%
Ireland	Allied Irish bank	123	118	112	107	107	40%
	Bank of Ireland	148	132	130	131	130	48%
	Permanent Tsb	41	37	36	29	30	12%
Italy	Monte dei Paschi	218	198	183	169	174	10%
	Popolare di Milano	48	45	45	47	52	2%
	Intesa Sanpaolo	673	624	646	676	700	34%
	Unicredit Bank	927	846	844	860	892	45%
	Mediobanca	62	62	54	55	56	3%
	Unione di Banche	132	124	122	120	117	6%
Netherlands	ING Bank	1166	1081	993	842	869	100%
Portugal	Banco Comercial Portugues	90	82	76	75	76	100%
Spain	BBVA	621	583	651	750	741	28%
	Banco de Sabadell	161	163	163	209	204	8%
	Banco Popular Espanol	172	164	179	179	182	7%
	Banco Santander	1282	1134	1266	1340	1324	54%
	Bankinter	58	55	57	57	61	2%
Sweden	Nordea Bank	668	630	669	646	675	56%
	Svenska Bank	262	273	309	277	314	24%
	Swedbank	203	201	233	236	264	19%
Denmark	Danske bank	468	434	464	442	455	100%

Table 2 Summary statistics of bank and sovereign CDS

Full Sample (01/01/2012 to 31/03/2016)	n	Mean	S.D.	Quantiles				
				Min	.25	Mdn	.75	Max
Bank CDS (bp)	28236	239	194	38	108	172	306	1819
Sovereign CDS (bp)	28236	111	132	7	29	70	140	1521
Δ Log(Bank CDS)	28236	0%	3%	-43%	-1%	0%	0%	33%
Δ Log(Sovereign CDS)	28236	0%	5%	-56%	-1%	0%	1%	53%
Δ Log(Bank Stock Price)	28236	0%	3%	-108%	-1%	0%	1%	109%
Δ Log(Foreign Exposure CDS)	28236	0%	2%	-34%	-1%	0%	1%	20%
Period 1 (01/01/2012 to 01/01/2013)								
Bank CDS (bp)	7267	411	257	71	210	344	533	1819
Sovereign CDS (bp)	7267	213	201	10	47	151	340	1521
Δ Log(Bank CDS)	7267	0%	3%	-43%	-1%	0%	0%	17%
Δ Log(Sovereign CDS)	7267	0%	6%	-56%	-2%	0%	2%	50%
Δ Log(Bank Stock Price)	7267	0%	4%	-34%	-2%	0%	2%	43%
Δ Log(Foreign Exposure CDS)	7267	0%	2%	-13%	-2%	0%	1%	11%
Period 2 (01/01/2013 to 01/01/2014)								
Bank CDS (bp)	7141	260	143	53	144	240	364	742
Sovereign CDS (bp)	7141	112	95	8	22	95	197	502
Δ Log(Bank CDS)	7141	0%	2%	-16%	-1%	0%	0%	18%
Δ Log(Sovereign CDS)	7141	0%	5%	-51%	-1%	0%	1%	53%
Δ Log(Bank Stock Price)	7141	0%	3%	-20%	-1%	0%	1%	23%
Δ Log(Foreign Exposure CDS)	7141	0%	2%	-12%	-1%	0%	1%	12%
Period 3 (01/01/2014 to 01/01/2015)								
Bank CDS (bp)	6093	143	72	38	83	127	187	400
Sovereign CDS (bp)	6093	62	42	8	28	58	88	316
Δ Log(Bank CDS)	6093	0%	3%	-29%	-1%	0%	0%	25%
Δ Log(Sovereign CDS)	6093	0%	5%	-39%	-1%	0%	1%	41%
Δ Log(Bank Stock Price)	6093	0%	3%	-35%	-1%	0%	1%	34%
Δ Log(Foreign Exposure CDS)	6093	0%	2%	-16%	-1%	0%	1%	14%
Period 4 (01/01/2015 to 01/01/2016)								
Bank CDS (bp)	6188	128	65	39	75	119	160	452
Sovereign CDS (bp)	6188	54	37	7	14	62	81	197
Δ Log(Bank CDS)	6188	0%	3%	-24%	-1%	0%	1%	28%
Δ Log(Sovereign CDS)	6188	0%	6%	-39%	-1%	0%	0%	39%
Δ Log(Bank Stock Price)	6188	0%	3%	-108%	-1%	0%	1%	109%
Δ Log(Foreign Exposure CDS)	6188	0%	3%	-34%	-1%	0%	1%	20%
Period 5 (01/01/2016 to 31/03/2016)								
Bank CDS (bp)	1547	177	126	45	93	152	202	738
Sovereign CDS (bp)	1547	63	45	7	20	70	88	286
Δ Log(Bank CDS)	1547	0%	4%	-24%	0%	0%	1%	33%
Δ Log(Sovereign CDS)	1547	0%	6%	-34%	-1%	0%	1%	43%
Δ Log(Bank Stock Price)	1547	0%	4%	-36%	-2%	0%	1%	36%
Δ Log(Foreign Exposure CDS)	1547	0%	3%	-16%	-1%	0%	1%	18%

Table 3 Bank CDS and changes in sovereign CDS explanatory power: time and bank fixed effects. This table shows the effect of sovereign credit risk on bank credit risk before, during and after the implementation of the BRRD. Standard errors are clustered at the bank level and bootstrapped

$\Delta \text{Log (BANK CDS)}$ Variables	(1) Fixed effects 2012-2016	(2) Fixed effects 2012	(3) Fixed effects 2013	(4) Fixed effects 2014	(5) Fixed effects 2015	(6) Fixed effects 2016
$\Delta \text{Log (SOV CDS)} \quad \beta$	0.0183* (0.00975)	0.0344*** (0.0132)	0.0240** (0.0114)	0.0306** (0.0151)	-0.00638 (0.0208)	-0.00538 (0.0221)
Lagged $\Delta \text{Log (BANK CDS)}$	-0.0377** (0.0164)	-0.0346 (0.0357)	0.00102 (0.0194)	-0.0738*** (0.0194)	-0.0863** (0.0418)	0.0705* (0.0370)
$\Delta \text{Log (FX)}$	0.0521** (0.0234)	0.0951 (0.0633)	0.132*** (0.0401)	0.0793*** (0.0291)	0.00640 (0.0222)	0.0273 (0.0484)
$\Delta \text{Log (SP)}$	-0.0373*** (0.0130)	-0.0482*** (0.0185)	-0.0453*** (0.0155)	-0.0354*** (0.0151)	-0.0113 (0.0211)	-0.0684*** (0.0340)
$\Delta \text{Log (VDAX)}$	0.230*** (0.0417)	0.106* (0.0631)	0.367* (0.201)	-0.196 (0.193)	-0.549*** (0.176)	0.0612 (0.0838)
$\Delta \text{Log (ITRAXEU)}$	-0.668*** (0.228)	-0.0103 (0.0862)	-1.436** (0.617)	1.079** (0.499)	1.037* (0.540)	0.393 (0.248)
Constant	-0.0192*** (0.00585)	0.00197 (0.00207)	-0.00933** (0.00469)	-0.00294 (0.00300)	0.0196*** (0.00590)	-0.00195 (0.00190)
Observations	28,236	7,267	7,141	6,093	6,188	1,547
R-squared	0.406	0.384	0.461	0.364	0.401	0.488
No. Banks	30	29	29	30	29	29
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes

***, **, and * indicates statistical significance at the 1%, 5%, and 10% level, respectively. The regression specification is given by: $\Delta \log(\text{BANK CDS}_{ijt}) = \alpha_i + \zeta_t + \beta \Delta \log(\text{SOV CDS}_{ijt}) + \omega \Delta \log(\text{BANK CDS}_{it-1}) + \gamma \Delta \log(\text{FX}_{it}) + \varphi \Delta \log(\text{SP}_{it}) + \delta \Delta \log(X_t) + \varepsilon_{ijt}$

Table 4 Banks CDS: BRRD dummy and sovereign CDS interaction term. This table examines the robustness of our main results by reporting the coefficients after having included the BRRD dummy and the interaction term between the BRRD dummy and sovereign CDS, columns (2) and (3), respectively. The same specification is performed at monthly frequency columns (4) to (6), and the public sector purchase program of the ECB is added as further control variable. Standard errors are clustered at the bank level and bootstrapped

$\Delta \text{Log}(\text{Bank CDS})$	(1) Fixed effects 2012-2016	(2) Fixed effects 2012-2016	(3) Fixed effects 2012-2016	(4) Fixed effects 2012-2016	(5) Fixed effects 2012-2016	(6) Fixed effects 2012-2016
Variables						
$\Delta \text{Log}(\text{SOV CDS}) \beta$	0.0183* (0.00975)	0.0183* (0.00975)	0.0215** (0.0108)	0.207*** (0.0379)	0.207*** (0.0379)	0.223*** (0.0407)
Interaction Term: Θ						
BRRD dummy		-0.00155*** (0.000425)	-0.00160*** (0.000420)		-0.00752*** (0.00271)	-0.00927*** (0.00275)
(BRRD dummy) * SOV CDS			-0.0276**			-0.105* (0.0632)
$\Delta \text{Log}(\text{PSPP})$						-0.279 (0.859)
Constant	-0.0192*** (0.00585)	-0.0164*** (0.00570)	-0.0161*** (0.00577)	-0.601 (0.941)	-0.432 (0.892)	0.00566 (0.0387)
Observations	28,236	28,236	28,236	1,252	1,252	1,252
R-squared	0.406	0.406	0.406	0.696	0.696	0.697
No. Banks	30	30	30	26	26	26
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Lagged $\Delta \text{Log}(\text{Bank CDS})$	Yes	Yes	Yes	No	No	No
Control variables	Table 3	Table 3	Table 3	Table 3	Table 3	Table 3
Data frequency	Daily	Daily	Daily	Monthly	Monthly	Monthly

***, **, and * indicates statistical significance at the 1%, 5%, and 10% level, respectively. The regression specification is given by: $\Delta \log(\text{BANK CDS}_{it}) = \alpha_i + \zeta_i + \beta \Delta \log(\text{SOV CDS}_{it}) + \omega \Delta \log(\text{BANK CDS}_{it-1}) + \gamma \Delta \log(PX_{it}) + \varphi \Delta \log(SP_{it}) + \delta \Delta \log(X_{it}) + \Theta_1 \text{BRRD}_{it} + \Theta_2 [(\text{BRRD}_{it} \Delta \log(\text{SOV CDS}_{it}))] + \varepsilon_{it}$

Table 5 Sovereign CDS and financial sector distress: country and time fixed effects. This table shows the effect of banks' credit risk on sovereign credit risk before and after the implementation of the BRRD. Standard errors are clustered at country level and bootstrapped by 200 replications.

$\Delta \text{Log (SOV CDS)}$	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Fixed Effects 2012-2016	Fixed Effects 2012	Fixed Effects 2013	Fixed Effects 2014	Fixed Effects 2015	Fixed Effects 2016
$\Delta \text{Log (FSD)} \beta$	0.203*** (0.0641)	0.301*** (0.0810)	0.324*** (0.123)	0.217** (0.105)	0.0300 (0.155)	-0.0170 (0.136)
Lagged $\Delta \text{Log (SOV CDS)}$	-0.300*** (0.0283)	-0.288*** (0.0727)	-0.233*** (0.0489)	-0.218*** (0.0329)	-0.432*** (0.0394)	-0.246*** (0.0430)
$\Delta \text{Log (VDAX)}$	0.246* (0.140)	0.327 (0.218)	-0.435 (0.433)	-0.415*** (0.105)	-0.0318 (0.130)	-0.0819 (0.297)
$\Delta \text{Log (ITRAXEU)}$	-1.237*** (0.545)	-0.656** (0.324)	1.651 (1.644)	-0.226 (0.237)	1.297 (1.144)	1.001 (1.627)
Constant	-0.0155 (0.0111)	-0.00167 (0.00598)	-0.00329 (0.00365)	-0.000648 (0.00131)	-0.00134 (0.00471)	0.0191 (0.0236)
Observations	8,946	2,502	2,351	1,808	1,827	458
R-squared	0.300	0.344	0.235	0.296	0.322	0.304
No. Countries	11	10	10	11	10	10
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes

***, **, and * indicates statistical significance at the 1%, 5%, and 10% level, respectively. The regression specification is given by: $\Delta \log(\text{SOV CDS}_{it}) = \alpha_i + \zeta_t + \beta \Delta \log(\text{FSD}_{it}) + \omega \Delta \log(\text{SOV CDS}_{it-1}) + \delta \Delta \log(X_i) + \varepsilon_{it}$

Table 6 Sovereign CDS: BRRD dummy and financial sector distress interaction term. This table examines the robustness of our main results by reporting the coefficients after having included the BRRD dummy, and the interaction term between the BRRD dummy and financial sector distress, columns (2) and (3), respectively. The same specification is performed at monthly frequency columns (4) to (6), and further control variables are added: debt to GDP ratio column and the ECB's PSPP. Standard errors are clustered at country level and bootstrapped by 200 replications.

Δ Log (BANK CDS) Variables	(1) Fixed effects 2012-2016	(2) Fixed effects 2012-2016	(3) Fixed effects 2012-2016	(4) Fixed effects 2012-2016	(5) Fixed effects 2012-2016	(6) Fixed effects 2012-2016
Δ Log (FSD) β	0.203*** (0.0641)	0.203*** (0.0642)	0.253*** (0.0598)	0.215* (0.126)	0.215* (0.126)	0.265* (0.152)
Interaction Term: τ						
BRRD dummy						
(BRRD dummy) * FSD		-0.00335** (0.00161)	-0.00349* (0.00151)		-0.0169 (0.0256)	-0.0152 (0.0265)
Δ Log (PSPP)			-0.388*** (0.128)			-0.278 (0.296)
Constant	-0.0155 (0.0111)	-0.00942 (0.0119)	-0.0124 (0.0117)	1.690 (4.059)	2.086 (4.162)	2.180 (4.381)
Observations	8,496	8,496	8,496	428	428	428
R-squared	0.300	0.300	0.301	0.544	0.544	0.547
No. Countries	11	11	11	9	9	9
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Δ Log (BANK CDS)	Yes	Yes	Yes	No	No	No
Δ Log (DEBT/ GDP)	No	No	No	Yes	Yes	Yes
Control variables	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5
Data frequency	Daily	Daily	Daily	Monthly	Monthly	Monthly

***, **, and * indicates statistical significance at the 1%, 5%, and 10% level, respectively. The regression specification is given by: $\Delta \log(SOV CDS_{it}) = \alpha_i + \zeta_t + \beta \Delta \log(FSD_{it}) + \omega \Delta \log(SOV CDS_{it-1}) + \tau_1 BRRD_j + \tau_2 [(BRRD_j * \Delta \log(FSD_{it}))] + \delta \Delta \log(X_t) + \varepsilon_{it}$

Table 7 Bank CDS and sovereign CDS explanatory power: time and bank/country fixed effects. This table shows the effect of sovereign credit risk on bank credit risk and vice versa at monthly frequency, before and after the implementation of the BRRD

$\Delta \text{Log (Bank CDS)}$ Variables	(1) Fixed effects 2012-2014	(2) Fixed effects 2015-2016	(3) Fixed effects 2015-2016	$\Delta \text{Log (SOV CDS)}$ Variables	(4) Fixed effects 2012-2014	(5) Fixed effects 2015-2016	(6) Fixed effects 2015-2016
$\Delta \text{Log (SOV CDS)} \beta$	0.205* (0.0387)	0.0700* (0.0567)	0.109** (0.0682)	$\Delta \text{Log (FSD)} \beta$	0.286* (0.158)	0.0895*** (0.156)	-0.101 (0.203)
$\Delta \text{Log (PSPP)}$				$\Delta \text{Log (PSPP)}$			
Constant	0.0551*** (0.00792)	0.0793*** (0.00854)	-0.101 (0.791)	Constant	0.104* (0.0538)	0.142*** (0.0266)	2.479 (4.108)
Observations	1,043	435	375	Observations	378	150	120
R-squared	0.649	0.768	0.758	R-squared	0.491	0.422	0.524
No. Banks	30	30	26	No. Countries	11	11	9
Bank FE	Yes	Yes	Yes	Country FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Time FE	Yes	Yes	Yes
$\Delta \text{Log (X)}$	Yes	Yes	Yes	$\Delta \text{Log (X)}$	Yes	Yes	Yes
$\Delta \text{Log (FX)}$	Yes	Yes	Yes	$\Delta \text{Log (DEBT/GDP)}$	Yes	Yes	Yes
$\Delta \text{Log (SP)}$	Yes	Yes	Yes				
Channel	1	1	1	Channel	2	2	2
Data frequency	Monthly	Monthly	Monthly	Data frequency	Monthly	Monthly	Monthly

Standard errors are clustered at the bank/country level and bootstrapped. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% level, respectively.

The regression specification of columns (1) to (3) is given by $\Delta \log(\text{BANK CDS}_{it}) = \alpha_i + \zeta_t + \beta \Delta \log(\text{SOV CDS}_{it}) + \gamma \Delta \log(\text{FX}_{it}) + \varphi \Delta \log(\text{DEBT}_{it}) + \delta \Delta \log(\text{X}_{it}) + \varepsilon_{it}$.

The regression specification of columns (4) to (6) is given by $\Delta \log(\text{SOV CDS}_{it}) = \alpha_i + \zeta_t + \beta \Delta \log(\text{FSD}_{it}) + \delta \Delta \log(\text{X}_{it}) + \varepsilon_{it}$.