Correction to: Could stock hedge Bitcoin risk(s) and vice versa?

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Correction to: Digital Finance

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There were some inconsistencies in Tables 4, 5, and 7 in the online PDF. The corrected Tables 4, 5 and 7 are given below. The original article has been corrected.

The original article can be found online at <https://doi.org/10.1007/s42521-019-00011-0>.

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Table 4 Estimation result of Eq. (3)

Conditional mean OLS estimation result										
	$r_{BC,t-1}$	$r_{SP,t-1}$	$LV_{BC,t-1}$	$LV_{SP,t-1}$	$Const_t$	ban_t	$B_t r_{BC,t-1}$	$B_t r_{SP,t-1}$	$B_t LV_{BC,t-1}$	$B_t LV_{SP,t-1}$
Panel A: condition mean equation [VAR (1)] results; Eq. (3)										
Bitcoin_ return _{<i>t</i>}	0.026 (0.067)	0.531*** (0.173)	0.004 (0.002)	-0.003 (0.003)	0.006 (0.048)	-0.95*** (0.362)	-0.016 (0.084)	-0.685*** (0.134)	-0.011** (0.005)	-0.010 (0.017)
S&P500_ return _{<i>t</i>}	-0.008 (0.010)	-0.108*** (0.026)	-0.001 (0.003)	0.001 (0.004)	-0.046 (0.073)	0.064 (0.054)	0.022* (0.0127)	0.063*** (0.020)	0.008 (0.007)	-0.004 (0.003)
Bitcoin_ volume _{<i>t</i>}	1.365*** (0.430)	0.732 (1.106)	0.925*** (0.014)	-0.761*** (0.018)	18.160*** (0.306)	-0.151*** (0.023)	-1.366** (0.538)	-0.886 (0.857)	0.004 (0.033)	0.694*** (0.106)
S&P500_ volume _{<i>t</i>}	0.092 (0.230)	0.244 (0.540)	-0.035*** (0.006)	0.386*** (0.009)	21.812*** (0.149)	-2.96*** (0.113)	-0.285 (0.262)	-2.50*** (0.418)	0.046*** (0.016)	0.547*** (0.051)

The residual vectors of the VAR (1) Ordinary Least Squares (OLS) estimates show evidence of higher order (order-2) series correlation using the LJ Box test. This confirms that the residual vectors exhibit ARCH effect. The conditional variance and correlation results are, therefore, shown in Panel B and Panel C

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 5 Estimation results of Eq. (6)

Conditional variance ML estimation results with Gaussian Joint Density									
	α_0	α_p	β_q	λ_p	γ_2	γ_p	γ_q	Deviance	LR test
Panel B: Condition variance equation (with exogenous components); Eq. (6)									
Bitcoin_return _t									
Basic	16.949*** (0.002)	0.238*** (0.000)	3.160*** (0.000)					196089.7	
Asymmetric	18.061*** (1.088)	0.249*** (0.008)	3.612*** (0.002)	0.045*** (0.002)				202229.2	0.000***
Exo-GARCH	9.129*** (0.521)	0.217*** (0.003)	2.718*** (0.045)	0.257*** (0.007)	0.541*** (0.000)	1.808*** (0.000)	0.737*** (0.122)	220375.2	0.018***
S&P500_return _t									
Basic	17.291*** (0.002)	0.201*** (0.000)	3.161*** (0.001)					93231.3	
Asymmetric	87.087*** (7.374)	0.205*** (0.000)	12.571*** (0.074)	0.186*** (0.002)				93403.5	0.048***
Exo-GARCH	43.686*** (3.691)	0.201*** (0.000)	12.425*** (0.065)	0.314*** (0.000)	0.699*** (0.000)	6.641*** (0.033)	0.899*** (0.009)	99081.4	0.010***
Bitcoin_volume _t									
Basic	9.919*** (0.001)	0.688*** (0.000)	3.163*** (0.000)					109850.1	
Asymmetric	0.091*** (0.000)	0.195*** (0.000)	0.298*** (0.000)	0.402*** (0.001)				110050	0.048***
Exo-GARCH	0.065*** (0.000)	0.199*** (0.001)	0.295*** (0.002)	0.401*** (0.001)	0.501*** (0.047)	0.600*** (0.003)	0.699*** (0.006)	120215	0.019***
S&P500_volume _t									
Basic	15.099*** (0.002)	0.407*** (0.000)	3.161*** (0.001)					91099.8	

Table 5 (continued)

Conditional variance ML estimation results with Gaussian Joint Density									
	α_0	α_p	β_g	λ_p	γ_2	γ_p	γ_q	Deviance	LR test
Asymmetric	0.012*** (0.002)	0.107*** (0.000)	0.044*** (0.008)	0.004*** (0.001)				91675.1	0.089*
Exo-GARCH	1.158*** (0.099)	0.263*** (0.001)	1.388*** (0.007)	0.297*** (0.001)	0.511*** (0.000)	0.611*** (0.002)	0.641*** (0.011)	100039.7	0.018**

Arch effect from the estimated residual vector in Panel A justifies the estimation of the conditional heteroscedasticity variance and correlation models whose results are shown in Panel B & Panel C. The conditional variance model estimation used the OLS minimized residual vector and it has very similar result when applied on the MLE conditional mean estimated residual vector

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 7 Estimation result of Eq. (8)

Conditional correlation ML estimation results with Gaussian Joint Density								
	a_c	b_d	λ_c	γ_3	a_c^*	b_d^*	Deviance	LR test
Panel C: Dynamic conditional correlation (1,1) with exogenous components equation results								
Basic	0.09*** (0.006)	0.9*** (0.007)					8169.5	
Asymmetric	0.079*** (0.000)	0.864*** (0.003)	0.107*** (0.000)				8226.9	0.094*
Exo-DCC	0.077*** (0.000)	0.861*** (0.001)	0.210*** (0.000)	0.076*** (0.000)	0.037*** (0.000)	0.096*** (0.000)	9005.3	0.019***

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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