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PII: S1042-4431(16)30155-X
DOI: http://dx.doi.org/10.1016/j.intfin.2016.11.003
Reference: INTFIN 902

To appear in: *Journal of International Financial Markets, Institutions & Money*

Received Date: 8 January 2015
Revised Date: 30 August 2016
Accepted Date: 3 November 2016

Please cite this article as: S. Boubaker, N. Essaddam, D.K. Nguyen, S. Saadi, On the Robustness of Week-day Effect to Error Distributional Assumption: International Evidence, *Journal of International Financial Markets, Institutions & Money* (2016), doi: http://dx.doi.org/10.1016/j.intfin.2016.11.003

On the Robustness of Week-day Effect to Error Distributional Assumption: International Evidence

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Abstract

We examine the robustness of the week-day effect both in the mean and conditional volatility using 51 stock market indices while controlling for volatility clustering and allowing three specifications of the error distributions. We show that the evidence of week-day effect in mean and conditional volatility is sensitive to the choice of the underlying distribution. Our results are not limited to the classic setting of examining week-day effect but also extend to settings that account for conditional and unconditional market risk. The evidence of "wandering week-day" effect is found to vary with the error distributional assumptions. Moreover, we document that the 2008 financial crisis lessened the week-day effect in the mean but at the same time magnified such effect in the conditional volatility. Our findings, which are robust to the presence of outliers and to different model specifications and to the presence of structural breaks, suggest that empirical regularity in financial series may be econometrically fragile in the sense of Leamer (1985). It also corroborates the calls that followed the recent financial crisis about the hazard of using models that are based on unrealistic assumptions.

JEL classifications: G10, G12, C10, C22

Keywords: Error Distributional Assumptions; Week-day effect; Wandering week-day effect; Volatility; GARCH.

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